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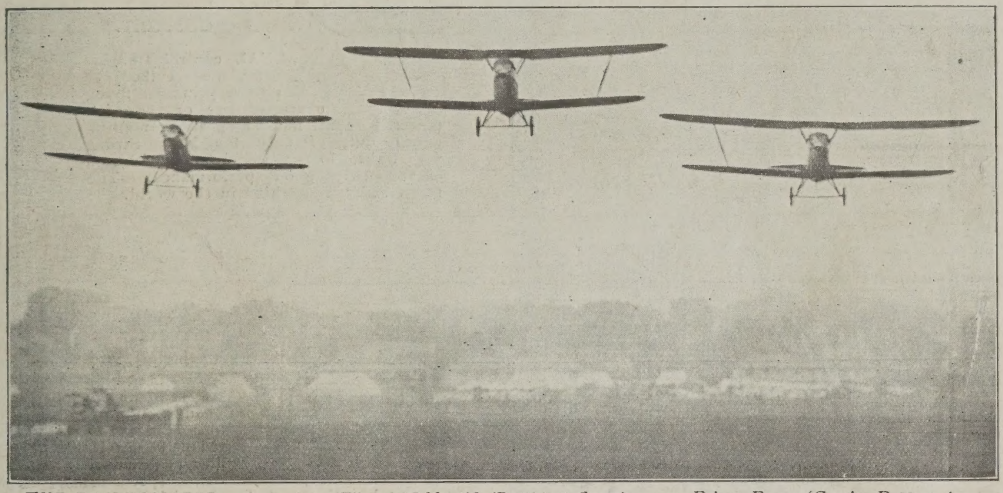
INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Grey

Vol. XXXIII. No. 1 SIXPENCE WEEKLY. Registered at the G.P.O. as a Newspaper.

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"STUNG INTO STORM BY THE SPEED OF OUR PASSAGE AND DEAF WHERE WE PASSED."—(SWINBURNE.)



THE DAY-BOMBERS:—One of the Flights of No. 12 (Bombing) Squadron, on Fairey Foxes (Curtiss D.12 engines) coming down-wind across the aerodrome, during the Group Evolution of Day Bombing Squadrons.



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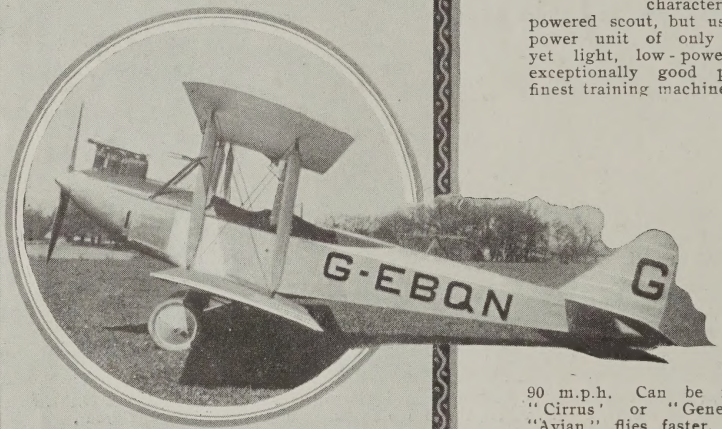
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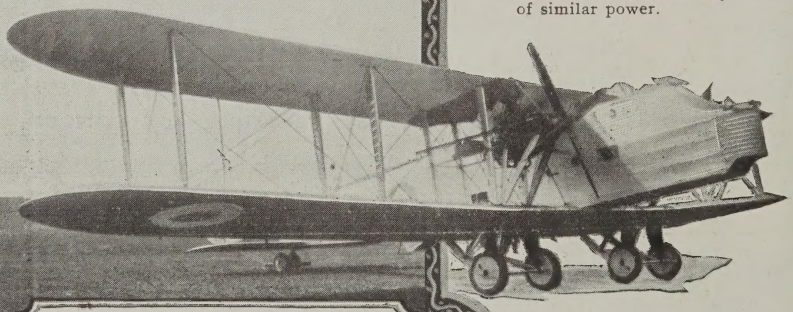
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THE AEROPLANE

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Aeronautical Engineering

VOL. XXXIII. No. 1.

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The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s.
Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8$.
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ON THE R.A.F. DISPLAY.

Just how the R.A.F. Display manages to be better and better every year although each year it seems to have reached the limit is one of life's unsolved mysteries. The Display on Saturday last, July 2, was in every way an improvement on previous Displays and Pageants,—except for the weather, and even that was better than some that has been known at earlier displays.

Apparently the Great British Public has made up its mind that the R.A.F. Display is one of the things which one does. In spite of drizzling rain and a strong gusty North-East wind, and threats of worse in the morning, there were enough cars and people in the enclosure by 12.00 hours to have made a good gate. And by 15.00 hours, when what are generally considered the serious events of the day began, there did not seem room for another car in the place. There will be considerable interest in seeing how the gate-money works out as compared with last year when the weather was perfect.

As usual the management of the whole affair was without a flaw, and all the arrangements in the Aerodrome itself have been vastly improved since last year.

One of the greatest improvements is the new Grand Stand which is said to hold 3,000 people. It is excellently arranged and it was excellently worked. Airmen of the R.A.F. stood at each of the stairways and handed each person a ticket as he or she went up, so that they knew when the stand was full. And each person when coming down handed in his or her ticket so that the stairkeepers knew how many more seats were available.

The view from the stand is excellent. Having seen all previous Pageants from the ground or standing up in a car one can vouch for the improved impression one gets of the whole affair from the stand, and one hopes that, if the profits on this Display permit, the stand will be extended for future Displays.

The car-parking arrangements were of the simplest and were done by the R.A.F. itself, with the usual efficiency of the Service. The official claim that all the cars can be got out of the Aerodrome in an hour was fully justified. And happily the R.A.F. can disclaim all responsibility for what happens when a car gets out of the Aerodrome.

That, as Mr. Kipling says, is another story. What with new arterial roads half made and leading nowhere, and police control confining all the traffic to half of a main road when there is practically no traffic going in the opposite direction, there seems to be more difficulty in getting back to London now than ever before.

A thing that seems to be needed very badly now is either a bridge or a sub-way by which foot passengers can get to Colindale Avenue tube station and to the 'bus route on the main Edgware Road without having to walk across the line of cars going out of the Colindale Avenue exit.

The Broadcasters.

The broadcasting arrangements were much better than in previous years and the anonymous announcer deserves to be complimented on the plain businesslike and unvarnished way in which he kept everybody informed of the progress of events.

All his announcements were most effective, with the exception of his efforts to discover the owners of three or four mislaid children who could have been obtained on application to the Lost Property Office if their parents had not apparently preferred to watch the Display unharassed, apparently happy in the idea that the children were safely parked in official care. By 18.00 hours the announcer seemed to be getting anxious about them, even though the parents were not.

To the credit of the R.A.F. wireless people one must say that the broadcasting of orders from the air in the "Manœuvres to Music" were as clear as those of the announcer on the ground, and the switching over from the ground announcer to the sky announcer was done without a hitch.

According to Programme.

As usual, the programme was run with the accuracy of a Kew Chronometer, and if one wanted to know the time it was safer to take it from the starting of each event than from the common or domestic watch.

The actual flying began at 12.00 hours precisely, the events from then up to 15.00 hours being indicated in the programme by letters.

At 11.00 hours, according to the Programme, the presentation of the Sassoon Cup took place. This was done with a secrecy worthy of the testing of a Schneider Trophy challenger, so one has no idea whether it was presented to the Officer Commanding No. 32 Squadron or to the pilot who won it, or whether it was presented in the Royal Enclosure or in the R.A.F. Enclosure or in the middle of the Aerodrome. But as this was very distinctly a domestic affair of the Service there was after all no need to make a public performance of it.

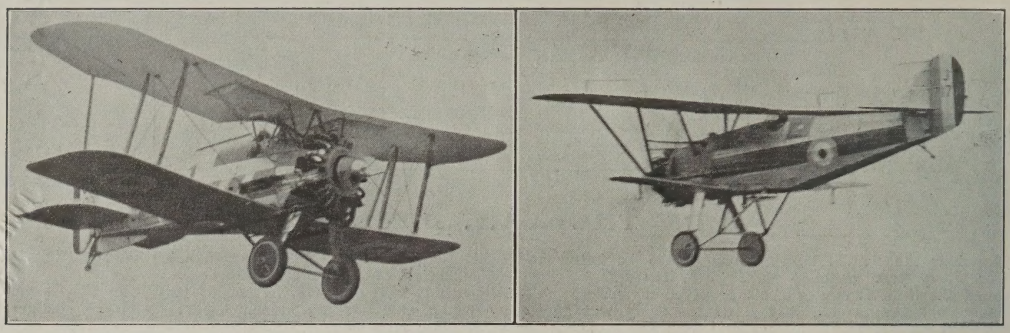
"THE DAY WHEN THERE SHALL BE A BLAST ON THE TRUMPETS AND YE SHALL COME IN CROWDS."— *The Koran.*)



A GENERAL VIEW.—Just one small section of the 10/- enclosure, showing the bandstand, and the 9as and the Foxes ready for the Wing Formation event.— *"Aeroplane" photograph.*)

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"YOU BRACE OF WARLIKE BROTHERS, WELCOME HITHER."
(Shakspeare—*Troilus and Cressida*)



FIGHTERS.—The Gloster Gamecock (Bristol Jupiter) and the Armstrong-Whitworth Siskin IIIa (supercharged Jaguar). Both are standard fighters at the moment.—(*"Aeroplane" photograph.*)

In the early days of R.A.F. Pageants the events before 15.00 hours were supposed to be more or less the internal affairs of the R.A.F., or events which were put in merely to entertain those spectators who had come early to avoid the crush. They still remain Service affairs rather than spectacles, but in these days when everybody is so keenly interested in the R.A.F. they are every bit as good to watch as are the other events.

However, being Service affairs the task of describing them has been committed to Mrs. C. M. McAlery, whose initials are well known to those whose calling in life impels them to pay particular attention to those pages of The Aeroplane which are particularly devoted to the affairs of the Air Force.

Let us therefore proceed to her description of the Lettered Events—*Changing over* :—

THE LETTERED EVENTS.

The Lettered Events at the R.A.F. Display on July 2 at Hendon were the less important events which took place between the hours of 12.00 hours and the beginning of the Display proper at 15.00 hours. The Committee had arranged that if the weather was very bad indeed these lettered events could be washed out without interfering with the main programme.

Phones and Fishing Gear.

Event A was a demonstration of radio-telephony and message picking-up and dropping as a means of communication between aircraft and troops on the ground. Three Army Co-operation Squadrons took part in this event each being represented by two Bristol Fighters.

"I HEARD THE OLD GODS SAY, 'HERE COME VERY MANY PEOPLE.'"
(Kipling.)



THE NEW GRAND-STAND.—Overhead the Musical Siskins of 41 Squadron.

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"SAFE MAY'ST THOU WANDER, SAFE RETURN AGAIN."—(SHAKSPEARE—*Cymbeline.*)



A DAY BOMBER.—The Hawker Horsley (Rolls-Royce Condor) a twin of the machines on which attempts—stopped by bad luck—were made to fly non-stop to India.—(*"Aeroplane" photograph.*)

The Squadron R/T calls were "Nightingale," "Spoonbill" and "Dipper." This demonstration was made more interesting to the general public than in previous years, by the broadcasting of the messages picked up and of the orders received from the ground. The messages were collected in a leisurely and rather primitive way by the Bristol Fighters with a string and a hook, rather in the manner of one's early methods of extracting minnows from a pond. But like many primitive methods there seems no evident way of improving on it.

The message was then hauled into the machine by the observer and its contents declaimed into all the enclosures round the aerodrome. Most of them were in the form of a question, and the answers, if any, were presumably lost in the ether. One message read. "Is it correct that all spectators were able to leave the aerodrome within one hour of the end of the Display last year?" There was no reply, either from the air or from any of last year's spectators.

THE DASHING DIRECTORATES.

Event B was a handicap race of about twenty-seven miles open to Directorates of the Air Ministry on any Service type of single-engined aircraft. This race is not nearly as funny as it sounds. One does not imagine that an Admiral at the Admiralty often runs down to Portsmouth and takes a destroyer out for an hour or two. Neither, presumably, does a Field Marshal at the War Office often go down to Aldershot to practice with a tank. But, as has been plainly proved again and again, and was demonstrated at the R.A.F. Display, senior Air Force officers frequently rush into the country and hurtle into the atmosphere on single-seater fighter aircraft.

This race was won in 11 mins. 53 secs., by Wing Cdr. W. H. Primrose, D.F.C., who nobly upheld the honour of the Directorate of Equipment on a Jaguar-engined Flycatcher with a 96 sec. handicap allowance. Flt. Lt. E. F. Waring, D.F.C., Directorate of Operations and Intelligence, was second from scratch with a Jupiter-engined Gamecock and Sq. Ldr. Huskinson, M.C., was third (96 sec. handicap allowance), on a Jaguar-engined Flycatcher.

One of the unplaced machines stood on its nose on landing, but one is not prepared to swear which Directorate it represented, though, judging by its attitude, it was either engaged in Research, or thought it was in a Rugger scrum.

THE RECKLESS RESERVISTS.

Event C was a race over a course of fourteen miles open to one officer from each of the R.A.F. Reserve Training Centres. The machines were all standard Avro training machines with Lynx engines.

"WE'RE CREEPIN' ON WI' EACH NEW RIG—LESS WEIGHT AND LARGER POWER."
(KIPLING—*MacAndrew's Hymn*)



THE NEW MACHINE PARK.—Where for the first time we showed real progress.—(*"Aeroplane" photograph.*)

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"LYNX" 7 Cylinders, 5 in. by 5.5 in. = 127 mm. by 140 mm. 756 cubic inches = 12.395 litres. Compression ratio, 5 to 1. 180 to 210 h.p., normal r.p.m. 1,620. Petrol consumption, .56 pints per h.p. hour. Oil consumption, .025 pints per h.p. hour. Weight dry, 480 lbs. = 217 kilograms.

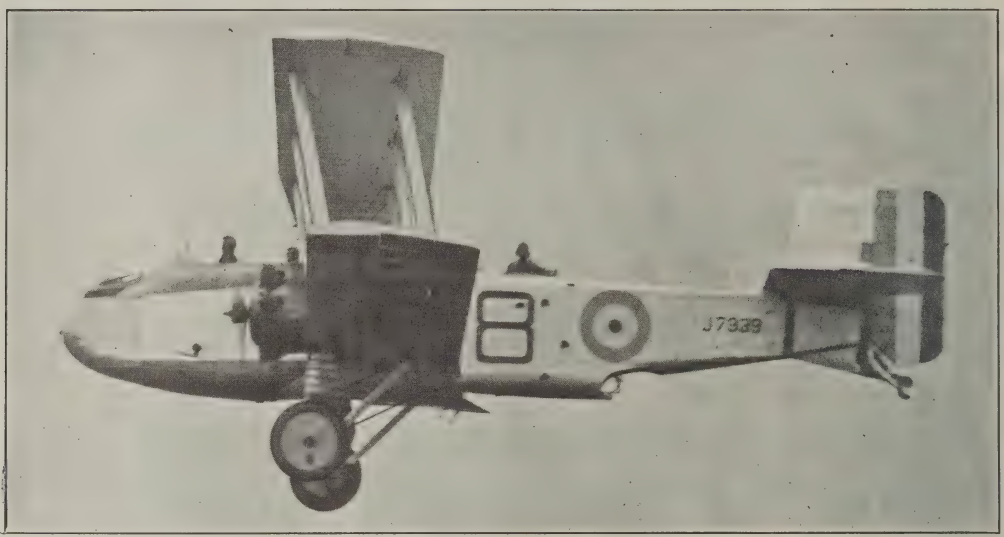
"MONGOOSE" 5 Cylinders, 5 in. by 5.5 in. = 127 mm. by 140 mm. 540 cubic inches=8.85 litres. Compression ratio, 5 to 1. 125 h.p. normal r.p.m., 1,620. Petrol consumption, .58 pints per h.p. hour. Oil consumption, .025 pints per h.p. hour. Weight, 340 lbs.=153.8 kilograms.

"GENET" 5 Cylinders, 4 in. by 4 in.=101.6 mm. by 101.6 mm. 251.2 cubic inches=4.14 litres. Compression ratio, 5.2 to 1. 65 to 75 h.p. normal r.p.m., 1,850. Petrol consumption, .58 pints per h.p. hour. Oil consumption, .03 pints per h.p. hour. Weight, 176 lbs.=80 kilograms.

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"STEEL TO THE VERY BACK."—(SHAKSPEARE—*Titus Andronicus.*)



ALL-METAL.—The Boulton and Paul Sidestrand (twin Bristol Jupiters) which is not only all-metal but all good British steel—bar the fabric covering—and none of your foreign compositions.—(*"Aeroplane" photograph.*)

This race was won by Flt. Lt. W. Jones, of the Glasgow centre, run by Wm. Beardmore and Co. Ltd. Flg. Off. L. C. Hillman, of the Leeds centre, the North Sea Aerial and General Transport Ltd., was second, Flt. Lt. T. A. Thornton, Coventry centre, Sir W. G. Armstrong-Whitworth Aircraft Co. Ltd. was third, and Flg. Off. H. Davis, London centre, the De Havilland Aircraft Co. Ltd. was fourth. Flg. Off. R. K. Rose, Bristol centre, The Bristol Aeroplane Co., Ltd., was disqualified for failing to cross the mark properly.

Flt. Lt. Jones flew a very good race. He is an early R.F.C. pilot, well grounded in the Gosport school of thought, and although he was so long with the Fleet Air Arm during his last years on the active list that he talks with a Naval accent, he has not forgotten how to handle an Avro.

There is an inhibitory notice in the cockpit of each of these aircraft warning pilots that their engines are not to exceed 1,500 r.p.m. normally, but that they may be run in case of emergency at 1,600 r.p.m. for a few minutes. Rumour says that in the race some engines exceeded 1,800 all the way.

Elementary Aerobatics.

Event D was an exhibition of individual aerobatics by two flying instructors. There is probably some sort of preliminary inter-Flying Training School competition before the Display to decide which Unit shall be represented in this event, and this year the pilots were from No. 2 F.T.S., Digby. They were Flt. Lts. H. T. Lydford, A.F.C., and Flt. Lt. F. J. Fogarty, D.F.C.

This was a most cheerful and amusing exhibition of what can be done in safety by the standard training machines of the R.A.F., the Avro Lynx.

The Flame Shooters.

Event E was a duel between two pilots of No. 23 (Fighter) Squadron, which is equipped with Gloster Gamecocks with Jupiter engines. The Gamecock is the fastest single-seat fighter in the Service, and although one pilot evidently had more air fighting experience than the other and was constantly on his enemy's tail, it was a very fine display of

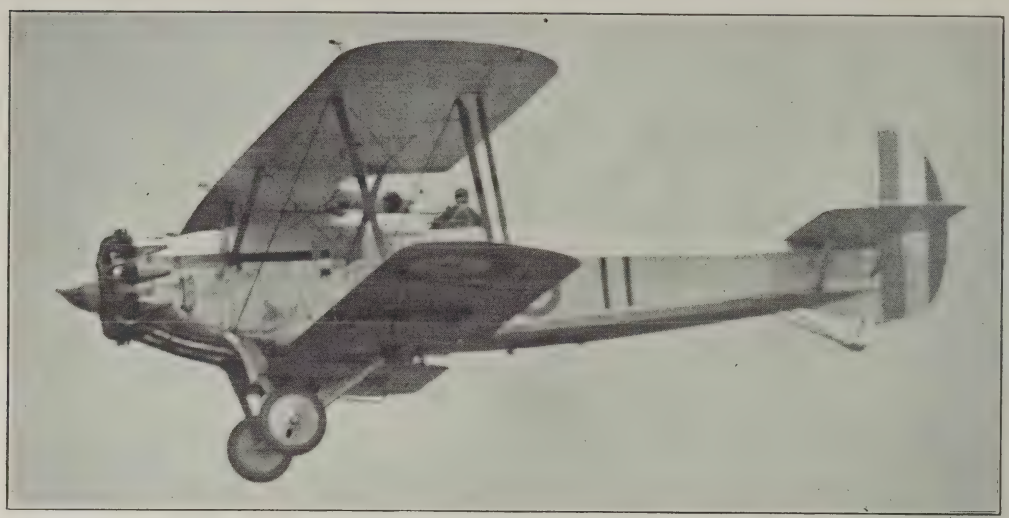
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"HE THAT IS VALIANT AND DARES FIGHT
THOUGH DRUBBED CAN LOSE NO HONOUR BY'T."—(Butler—*Hudibras.*)



A GENERAL PURPOSE MACHINE.—The Vickers Valiant (Bristol Jupiter), ready for anything.
(*"Aeroplane" photograph.*)

single-combat manœuvring, and the combination of piloting and strategy which go to make a battle in the air were fully demonstrated. The loser burst into smoke and flames (by use of chemicals in the exhaust and electric lights) in quite a realistic way.

According to the programme the pilots were Flt. Lt. H. C. Calvey and Plt. Off. H. A. Purvis, but one believes that an alteration was made at the last minute. Which goes to prove that the pilots who take part in the Display are not a few star performers, but are drawn from hundreds who are equally skilled and efficient.

A Wash-Out.

Event F was an Altitude Race between one representative from each of four Fighter Squadrons. These four had been selected by a series of eliminating tests first of all, to find the best man and machine in each Squadron, and then to reduce the representative Squadrons to four.

The machines had to start simultaneously, and climb as high as possible in 15 minutes. It was not necessary to hurry down. Each machine carried a sealed barograph to record the rate of climb and total height reached. The pilots were equipped with oxygen and electrically-heated clothing.

From the spectators' point of view this race lost a good deal of its interest owing to the fact that the clouds were so low and thick that all the machines disappeared immediately and were forgotten. However, the interval was filled in by some crazy flying on a Genet Moth by Sq. Ldr. H. G. Smart, O.B.E., D.F.C., A.F.C.

Owing to the bad weather the result of the climbs were so poor that the High Authorities agreed with the weather and washed out the competition.

The Finished Aerobats.

Event G was an exhibition of individual aerobatics by two pilots of No. 111 (Fighter) Squadron flying separately. The machines used for this event were Siskins with supercharged Jaguar engines, and the pilots, Flg. Off. A. H. Wheeler and Sjt. H. A. Marsh gave a ten-minute display of clean loops, slow and flick rolls, half-rolls on top of the loop, and other graceful aerobatics in the best R.A.F. style.

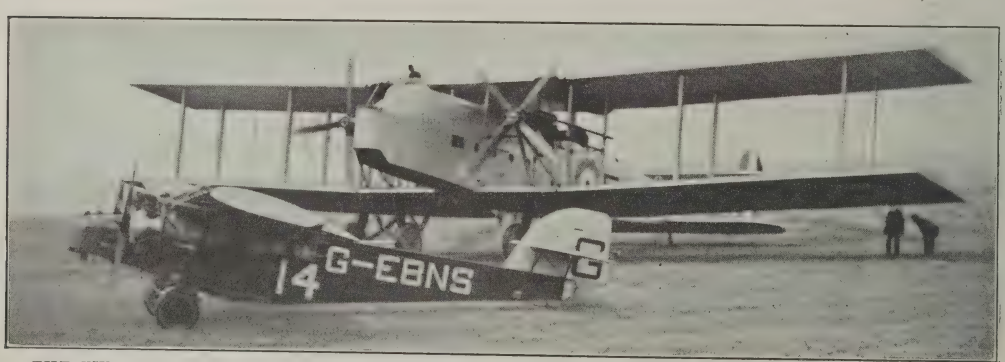
Event H was also an exhibition of individual aerobatics and also lasted ten minutes. No. 32 (Fighter) Squadron supplied this event and the machines were two Gamecocks with Jupiter engines. The pilots were Flg. Off. R. H. Horniman and Sjt. M. Lowe. These aerobatic displays were only intended to fill in time, but a good many of the spectators at the Display would have gone to a good deal of trouble and discomfort to see these events without the rest of the programme.—C. M. MCA.

The Royal Party.

Their Majesties the King and Queen arrived at 15.00 hours precisely, just as the machines were taking off for the Group Evolution of Day Bombing Squadrons. They were received at the Royal Enclosure by the Secretary of State for Air, Sir

"THE EAGLE SUFFERS LITTLE BIRDS TO SING
AND IS NOT CAREFUL WHAT THEY MEAN THEREBY."

(Shakspeare—*Titus Andronicus.*)



THE TWINS.—The Handley Page Hamlet (twin Lynxes) and the Avro Ava (twin Condors) taxying out to meet the King.—(*"Aeroplane" photograph.*)

Samuel Hoare, Marshal of the Royal Air Force Sir Hugh Trenchard, Air Marshal Sir John Salmond, and the Under-Secretary of State for Air, Sir Philip Sassoon. With their Majesties were the King of Spain, the rightful King and Queen of Greece, and the Duke of York.

THE NUMBERED EVENTS.

[Here one takes over again from C. M. McA.—C. G. G.]

Squadron Drill.

Event No. 1 was an exhibition of drill in the air by three day bombing squadrons. These were :—No. 12 Squadron, Andover, under Sq. Ldr. T. E. Salt, A.F.C., on Fairey Foxes with Curtiss D.12 engines (this engine is to be known in this country if and when built here as the Fairey Felix); No. 39 Squadron, Spittlegate, under Sq. Ldr. H. V. Champion de Crespigny, M.C., D.F.C., on D.H.9as with Liberty engines, and No. 207 Squadron, Eastchurch, under Sq. Ldr. J. B. Graham, M.C., A.F.C., on D.H.9as with Liberty engines.

Thus it will be seen that the spectacular events of the programme opened with a display of formation flying by American engines, a strange commentary on British aeronautical progress as controlled by the Technical Department of the Air Ministry in the past. The clouds were low and the wind was gusty and the weather was generally beastly, so the formation flying was distinctly poor as a spectacle though anybody who knew anything about handling aeroplanes in a wind knew that it was really extraordinarily good.

The dear old D.H.9as flopped about but they kept station remarkably well. One machine out of one formation landed soon after the beginning of the show, and rumour had it that its tail plane had been damaged through touching another machine while in a cloud. The pilot made an absolutely perfect landing so either the machine was damaged very little or else he is an amazingly fine pilot.

The programme said " The increase in speed and climb of the new type of aeroplane will be demonstrated." The climb was demonstrated by starting the Fox formation behind the others, which gave a very good idea of the way these excellent machines shoot off the ground. Thereafter the formations came over the ground twice with the D.H.9a formations on either side leaving the middle open for the overtaking Foxes to come through between them at a higher speed.

None of the formations was flying at top speed during this manœuvre, so there was really no particular demonstration about it. But later on the three flights of Foxes broke up into three separate formations and came across the aerodrome down-wind really full out. The characteristic American Eagle scream of the Curtiss D.12s emphasised the really astonishing speed of the machines.

The landing of the three squadrons was no less interesting than their departure. There used to be a legend in the early days of the Fox that it was hard to land and that, as people used to say about the '9a, it would " kite for miles " before actually sitting on the ground. Evidently the Fox pilots have got the weight of their machines nicely, for they sat down beautifully and came to rest with just about the same amount of run as the '9as.

Tank-Bombing.

Event No. 2 was the familiar and popular converging bombing of an alleged tank in the middle of the aerodrome, which done at the two last Pageants by the Squadron which was familiarly known as " Peck's Bad Boys." This year it was again done by No. 25 Squadron on Gloster Grebes (Jaguar engines) from Hawkinge, which is now commanded by Sq. Ldr. W. H. Park, M.C., D.F.C., the pilots being : Flt. Lt. S. T. B. Cripps, D.F.C., Flg. Offs. L. E. Maynard, K. K. Brown and R. J. A. Ford. Unfortunately the tank refused to be a " moving target " as per programme.

Somebody landing in the previous event must have hooked up on his tail-skid the cable which usually tows it across the ground. So the poor old tank was towed out into the middle of the aerodrome by a friendly engine-starter and was left sitting there with its nose in the air looking like a sheep which had stopped grazing to look at the pretty aeroplanes.

Owing to the direction of the wind the smoke of the bombs drifted between the tank and the main enclosure so that one could not see whether any direct hits were scored or not. Anyhow the tank was not seriously damaged, for when the engine starter came to fetch it away it followed in the same docile manner as before. So far as the actual flying was concerned it was just as good as that in previous years,—*vide* Mr. Leonard Bridgman's picture.

The Musical Flight.

Event No. 3 was the novelty of the day, the Air Manœuvres to Music, or the " Musical Flight," if we are to consider it as the aerial equivalent to the Cavalry's " Musical Ride " at Olympia, and elsewhere. The official excuse for this event, in case silly M.P.s might ask impertinent questions about it in the House, was that it was " A demonstration of efficiency of Radio Telephony for communication between ground and air by nine aeroplanes of No. 41 Squadron." Actually the Air Force and the Public regarded it as the joke of the afternoon.

For this event The Aeroplane may claim a certain amount of reflected, or at any rate convected, glory. The idea of a Musical Flight as an offset to the cavalry's show was suggested by Mr. A. E. Apted, of Croydon, in a letter to this office. From here it was transmitted to the Authorities of the Air Defence of Great Britain, who, with that mental alacrity which is so necessary to air defenders, promptly saw the humour of the idea and at the same time its use as a practical demonstration of radio-telephony and flying-training.

One gathers, very much unofficially, that a good many people at Air Defence Headquarters thought that the idea was distinctly " wet "—in modern Air Force phraseology. Others thought that it was quite a good way to interest the public in what the machines were actually doing. And others thought that it was funny enough to be worth doing

No. 41 Squadron apparently thought at first that it was silly, and that anyhow it meant a lot of useless hard work. Then, after a little practice, they began to take an interest in it. And a little later became wholly enthusiastic.

They certainly showed their enthusiasm in the way they did the job. And they had evidently made up their minds to make a good show, for their Siskins were painted and

"LIKE A BRACE OF GREYHOUNDS HAVING THE FEARFUL FLYING HARE IN SIGHT."—(Shakspeare—*Henry IV.*)



LANDING FROM THE DRILL.—Two Fairey Foxes (Curtiss D.12s) alighting.—(*"Aeroplane" photograph.*)

"HARK! MUSIC I' THE AIR." (Shakspeare—*Antony and Cleopatra.*)



THE MUSICAL FLIGHT.—No. 41 Squadron's Siskins preparing to be atrocious.— (*"Aeroplane" photograph.*)

varnished and polished till they looked like sports Bentleys of the more affluent kind.

The Squadron took off to the tune of "I'm an Airman," Sq. Ldr. F. Sowrey, D.S.O., M.C., A.F.C., flying outside and above the formation to keep an eye on things and to tell any individual pilot what he thought of him if he dropped out of place.

The formation returned over the aerodrome to the tune of "Chick, Chick, Chicken." The Squadron Leader's solemn order "Squadron prepare to lay your eggs," followed by the laying of eggs which bounced to an enormous height, caused great joy to the spectators. Incidentally, if the Squadron Leader ever finds himself out of a job his delivery alone ought to assure him a good berth in the Church or on the Bench. He could not have declaimed "Prepare to meet your God" more effectively.

Thereafter the tune changed to "Here we go round the Mulberry Bush," while the machines chased one another's tails in a great circle round the aerodrome. For some reason this very simple manœuvre seemed to please the crowd more than did the really good formation flying. And certainly it is a very pretty thing to watch.

Then the Band played "Rolling Home," and the formation proceeded to roll as nearly in formation as the cloud-broken wind would permit.

After that came "The Froth-Blowers' Anthem" and the formation closed up so as to justify the words "The more we are together." But one doubts whether they were in fact "the happier" in close formation in that wind.

Following this the Squadron flew past the Royal Enclosure to that Caledonian medley which is officially the R.A.F. March, and landed to the tune of "Bill Bailey, won't you please come Home?"

The pilots were :—Flt. Lts. C. B. S. Spackman, D.F.C., C. A. Bouchier, D.F.C., and F. K. Damant, D.F.C.; Flg. Offs. T. A. Hale-Monro, C. S. Staniland, V. C. Taylor, I. G. E. Dale, T. N. McEvoy and H. T. Andrews. And they all deserve to be congratulated on their excellent show.

The only fault one has to find with that particular event is that it needs pulling together. The formation went too far out of the aerodrome between changes of tune. The show would have looked better if they had kept well inside the limits of the aerodrome and if the changes from one tune to the other had been made more quickly.

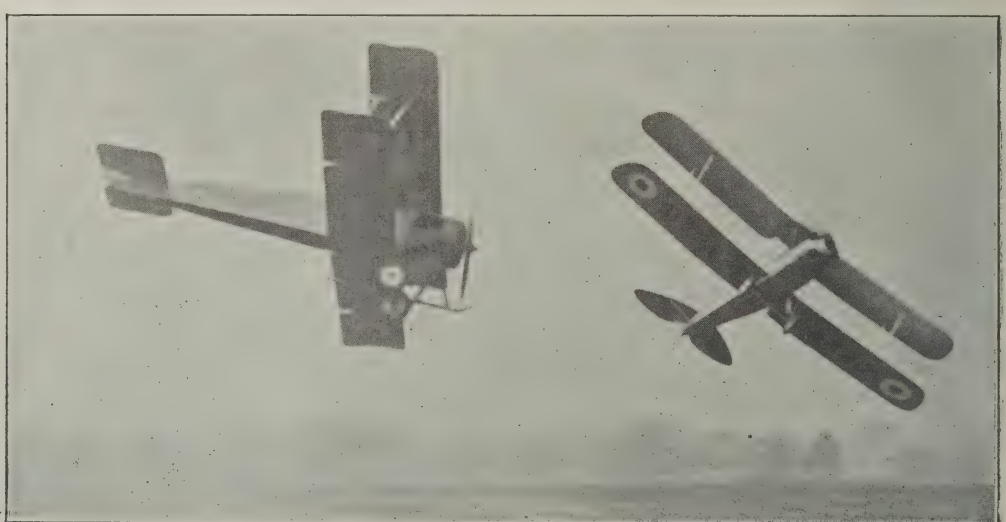
Anyhow, the performance was quite a success for a first attempt, and one hopes that before the next Pageant Tin-Pan Alley, New York, where the Charlestons come from, will have turned out some new tunes which will achieve such popularity as to be known to everybody, and will have names or refrains which can be twisted into some aeronautical application. For instance, there ought to be something somewhere about a Bootlegger's Corkscrew which would give the squadron an opportunity of doing a spin in formation.

The Amusement Park.

Event No. 4 was the Parade of New and Experimental Types of aircraft which had been reposing behind railings in a kind of corral, round which the public were allowed to walk and inspect them like animals at the Zoo. Each machine had its type-name on a label beside it, but the makers' name was carefully absented from both the label and the machine. Just why the Air Force deprives the Trade of this harmless little bit of advertisement is hard to understand.

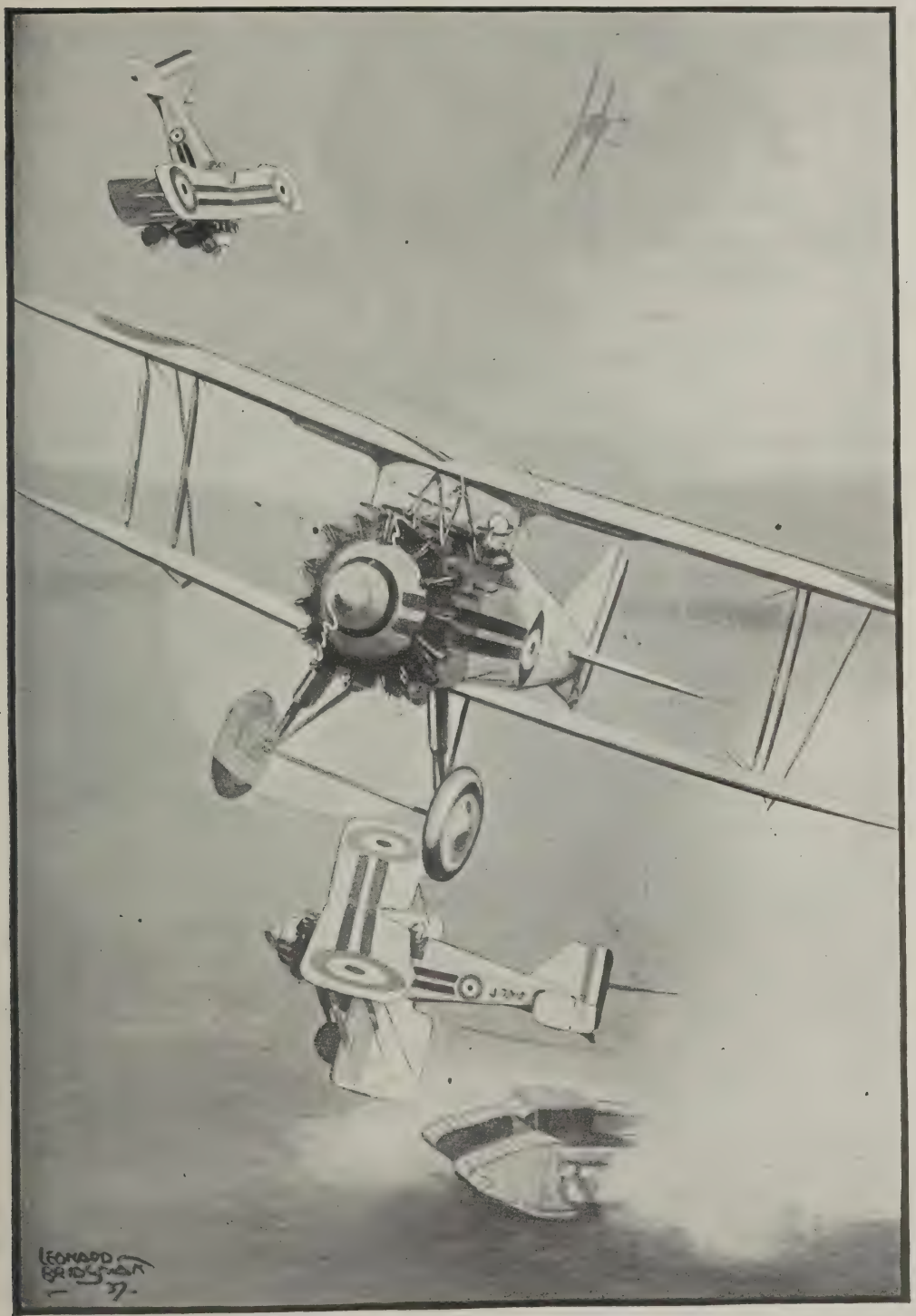
The programme says "These aircraft taxi along the line of enclosures, take off and fly round in the order shown." After the last Pageant one made so bold as to describe the flying of the machines in the parade, besides merely saying what the machines were. And one even dared to criticise one or two machines.

"OH! THIS LEARNING, WHAT A THING IT IS."—(Shakspeare—*King Lear.*)



CRAZY FLYING.—Sq. Ldr. Noakes (Avro) and Sq. Ldr. Smart (Moth) demonstrating either how a pupil flies on his first solo, or what a fully trained pilot ought to be able to do, or perchance the truth of the saying of that early Felix, "Too much learning hath made thee mad." (*"Aeroplane" photograph.*)

"A HIT, A VERY PALPABLE HIT."—(Shakspeare—*Hamlet.*)



BOMBING THE TANK.—An impression of four Grebes of No. 25 Squadron giving a demonstration of converging bombing on a tank.

THE MODERN TRAINING AIRCRAFT

THE D.H.

MOTH

WITH 60-H.P. ARMSTRONG SIDDELEY "GENET" ENGINE.



AS SUPPLIED TO

THE ROYAL AIR FORCE

and acknowledged to be the finest machine for aerobatic instruction in the world.

"For sheer mastery of machine, delicacy of touch, and sense of time and space, however, first place must be given to the five instructors from the Central Flying School, who carried out simultaneous "aerobatics," including close looping and flying upside down in formation on Genet-engined Moths. Their special "turn," if it may be so called, was to dive as one unit at an angle beyond the vertical, so that they wound up flying all five on their backs; and then, with a quick roll, to carry on in the opposite direction to their original course with undercarriages in their right positions once more."

THE TIMES.—Report of the R.A.F. Display.



THE DE HAVILLAND AIRCRAFT CO., Ltd.,

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"HAVILLAND, EDGWARE."

The result was sundry threats of cancellation of advertisements and a considerable amount of jealousy, because unfortunately, "beauty lies in the eye of the beholder," and one's own ideas of beauty did not happen to coincide with those of certain aircraft designers.

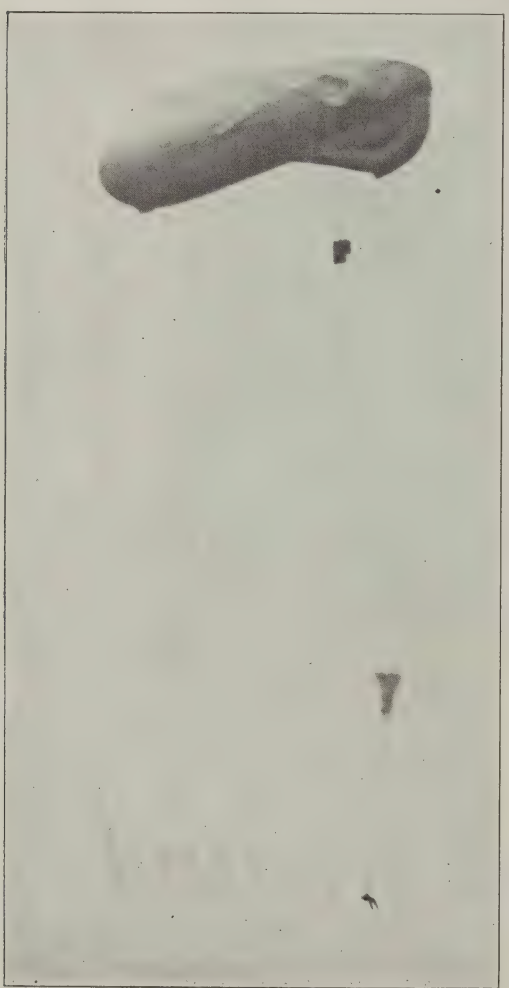
One gentleman even wrote and complained that a machine in which he was interested had had two or three lines less given to the description of it than had another machine in the same class. However, to console him, one sent him about six pages of typescript showing him what one *might* have said about his machine if one had not had so much good feeling for him personally and so much respect for the good intentions at any rate of the designer of the machine.

So this year one does not propose to express any opinion about any of them. It seems the safest way of avoiding creating ill-feeling.

THE FLY-PAST.

As a matter of fact all the machines flew very well indeed and those machines which were really new showed that at last we are level with our Continental and trans-Atlantic rivals for Air Power. The General Purpose machines in particular showed that we are a long way ahead of anybody else in that particular class, for we now find ourselves in the curious position of having two- and three-seaters for reconnaissance, photography, day bombing and so forth which are some tens of miles an hour faster than our single-seat fighters.

"GOOD GROUND BE PITIFUL."
(SHAKSPEARE—*King John.*)



THE KITE BALLOON.—Major Sandbags wins the third bar to his O.B.E. The beginning of the fire may be seen.—(*"Aeroplane" photograph.*)

"BEAUTY DWELLS IN THE EYE OF THE BEHOLDER."—*(Arab Proverb.)*



THE PTERODACTYL.—As seen in any aspect or attitude.—(*"Aeroplane" photograph.*)

On the other hand, though other Powers do happen to have faster fighters we can claim to have high altitude fighters which are a good deal faster at 15,000 feet and upwards than those of other Powers. And there was one really new single-seater at the Display, built without any regard for Air Ministry Experts' specifications, which is actually streets ahead of any foreign fighter. But though it was there one must not mention its speed or its climb or even its name.

The machines which took part in the Parade were as follows:—Gloster Gamecock (Bristol Jupiter), Winner of the Sassoon Cup; Armstrong-Whitworth Atlas (Armstrong-Siddeley Jaguar), Army Co-operation; Short Chamois (Bristol Jupiter), Army Co-operation; Handley Page Hinaidi (two Bristol Jupiters), Night Bomber; Avro Ava (two Rolls-Royce Condors), Day Bomber; Gloster Goring (Bristol Jupiter), Day Bomber; Hawker Horsley (Rolls-Royce Condor), Day Bomber; Boulton and Paul Sidestrand (two Bristol Jupiters), Day Bomber; Fairey IIIF (Napier Lion), Day Bomber; de Havilland Hound (Napier Lion), General Purpose; Vickers Valiant (Bristol Jupiter), General Purpose; Westland Wapiti (Bristol Jupiter), General Purpose; Bristol Bulldog (Bristol Jupiter), Day and Night Fighter; Handley Page Hamlet (two Armstrong-Siddeley Lynxes), Civil Air Transport; and the Westland Pterodactyl (Bristol Cherub), Aerodynamic Research.

WHY?

Actually the composition of this Parade is a bit puzzling. The Gamecock of course had a right to be there as the winner of the Sassoon Cup, but considering that there are three Squadrons of them in existence it can scarcely be called either a new or experimental type. The Hinaidi is a new type by virtue of having two Jupiter engines, but apart from that it is practically indistinguishable from the Hyderabad, of which a squadron appeared in the "Night Bombers" event.

Incidentally the dark night-bombing paint of the Hinaidi against the grey clouds showed her simply as a silhouette when she got off, and one young spectator with an artistic eye remarked that she looked like a picture on a poster.

The Avro Ava appeared last year, but, having been crashed by an R.A.F. test pilot in the meantime, she appeared this year with a different set of wings, which presumably makes her a novelty. Meanwhile, people who know a good aeroplane when they see it wonder why there is still only one Ava in existence.

Still more surprising is the case of the Horsley which, so far as the ordinary buyer of the programme is concerned, is to be considered a new, experimental, or secret machine, when in fact a machine of identically the same type flew in the Display last year. There are in fact three squadrons of the R.A.F. fully equipped with Horsleys and enough Horsleys have been built to equip five squadrons or more. So a

WORLD'S RECORD SEA FLIGHT

June 28th 1927

USING

Mobiloil

2400 miles across the Pacific

A marvellous achievement, when engine failure meant a descent into the sea and possible disaster.

The United States Army Air Corps pilots who accomplished this epoch-making flight from San Francisco to Hawaii used Mobiloil "B" to lubricate the three Wright "Whirlwind" engines of their Fokker plane.

They pinned their faith to the standard grade of Mobiloil "B"—identical in every respect with the Mobiloil "B" you can buy at all garages.

Colonel Lindbergh, the Atlantic hero, used Mobiloil; Commander Byrd, in his amazing North Pole Flight used Mobiloil. *You* can follow their lead by making the Mobiloil Chart your guide and asking for Mobiloil every time you buy oil.

Mobiloil *again!*

REG° TRADE MARK

Announcement of the Vacuum Oil Company, Ltd., Caxton House, London, S.W.1

good many people wondered why the Horsley squadrons were not allowed to appear in Event 1 in the programme.

The Pterodactyl also is hardly new, for most people will remember the amusement she caused a year ago. However, her comic appearance and the fact that she is distinctly an experimental type justified her appearing in the parade. The same spectator with the artistic eye remarked of this machine,—"You know, if *I* had made the Pterodactyl, I think I should put it away!"

Too Much Learning.

Event No. 5, Crazy Flying, was remarkable for the return to the Display of Sq. Ldr. J. Noakes, A.F.C., M.M., the inventor of "crazy flying," who showed that his sojourn in the land of Egypt has in no way diminished his mastery over the familiar Avro 504K with the Mono engine. By way of contrast, Sq. Ldr. H. G. Smart, O.B.E., D.F.C., A.F.C., who had already put up a good extra turn on his own, demonstrated the possibilities of crazy flying on a Genet Moth.

Of the two the Avro is really funnier because it is bigger and not so snappy in its movements. The actual speed of the two machines must be about the same so naturally the bigger machine seems to lumber about more humorously than does the little one. On the matter of sheer skill in the air there was nothing to choose between the two pilots.

The Wittering Moths.

Event No. 6 was certainly one of the finest exhibitions of sheer flying in the whole Display. Five instructors from the C.F.S. at Wittering, Flt. Lt. D. D'A. A. Greig, D.F.C., and Flg. Offs. A. E. Beilby, G. H. Stainforth, R. I. R. Atcherley and H. R. D. Waghorn on de Havilland Moths with Genet engines gave one of the most extraordinary displays of formation aerobatics that has yet been seen.

They looped in formation and they rolled in formation and they flew on their backs in formation and generally manœuvred together in a way which for accuracy and unanimity one has not seen equalled since the Totem Pole chorus in "Rose Marie."

Also they spun in formation, coming out of a three-round spin all at the same moment and all in the same direction. And they did a unanimous half-loop outwards, which was quite quaint. This latter trick is called a "bunt," for no reason.

Even granted that the D.H. Moth biplane is about the most controllable machine in the World and in many ways the easiest to fly, the whole performance demonstrated the extraordinarily high standard of efficiency which has been reached by the instructors at the C.F.S.

Incidentally there is interest in noting the fact that two of the five pilots are comparatively recent graduates from the Cadet College at Cranwell, thus demonstrating that our post war pilots are fully up to the standard of our most experienced war pilots. One cannot possibly describe their evolutions in words, and there was no possibility of getting photographs of them during the Display. But happily photographs of their formation were taken while they were practising at Wittering and some of these appear herewith.

Do you know the old riddle "Why is a moth fluttering round a candle like an unlatched gate?"—The answer is, "Because if it keeps on its hinges it swings." (Say it fast and you will see why.)—If this sort of thing is done at the C.F.S. we shall have to talk about Moths Wittering instead of Fluttering.

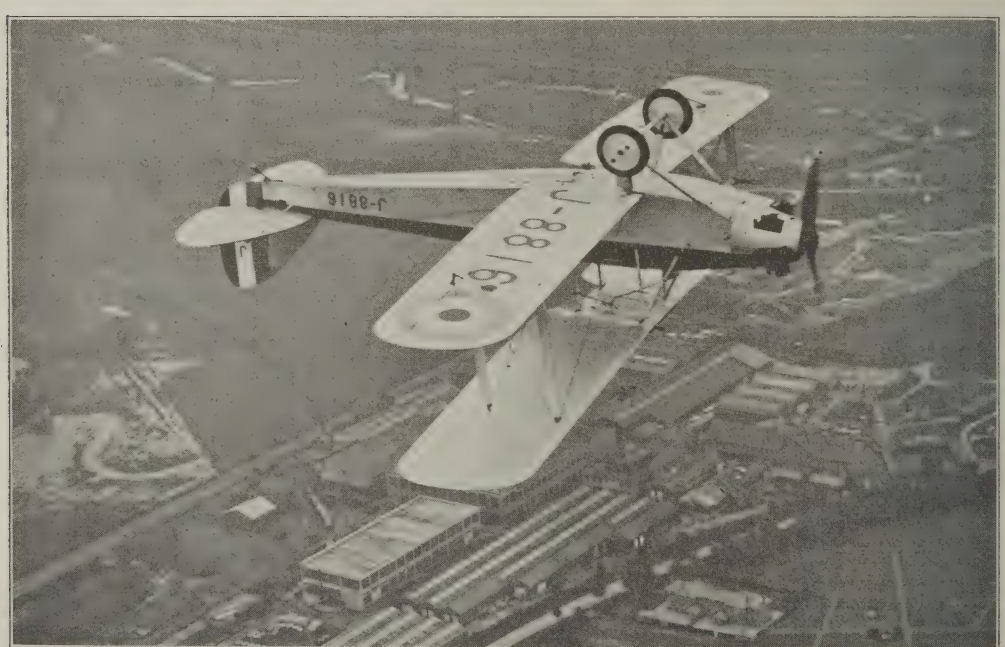
The Heavy Artillery.

Event No. 7 was a fly-off of night bombers as a sequel of the Reliability Tests which were held between 08.00 hours on June 14 and 08.00 hours on June 16, when each aeroplane of the four Squadrons represented flew independently over a course of 405 miles. No figures were given for the performance of the machines, which is perhaps just as well, but the results of the Competition were as follows:—1st, No. 7 Squadron, Worthy Down, under Wing Cdr. C. F. A. Portal, D.S.O., M.C., on Virginias (Napier Lions); 2nd, No. 9 Squadron, Manston, under Wing Cdr. C. C. Durston, on Virginias (Napier Lions); 3, No. 58 Squadron, Worthy Down, under Sq. Ldr. A. T. Harris, O.B.E. ,A.F.C., on Virginias (Napier Lions), and 4th, No. 99 Squadron, Bircham Newton, under Wing Cdr. B. E. Smythies, D.F.C., on Hyderabads (Napier Lions).

These big night-bombers of ours are probably the most efficient machines in their class in the World. And certainly nothing can touch our machines for excellence of material and workmanship. But *as a class* all the World over the night-flying bomber is the World's most useless aircraft.

They are all so slow that if they want to raid a place about 400 miles away and have to butt into a 40-miles-an-hour wind, they have to start somewhere about the day before yesterday to get there to-morrow afternoon. They are all so big and they all have to carry such a terrific weight of petrol to get any range because of their low speed that they waste 75 per cent. of their power carrying themselves and their fuel and there is no lift left for bombs.

"ABOVE THE SMOKE AND STIR OF THIS DIM SPOT WHICH MEN CALL EARTH."
(Milton.)



"PATTES EN L'AIR" UP-TO-DATE.—A Moth (Genet engine), one of a group of five all in the same predicament, rehearsing for the R.A.F. Display at the Central Flying School, Wittering.

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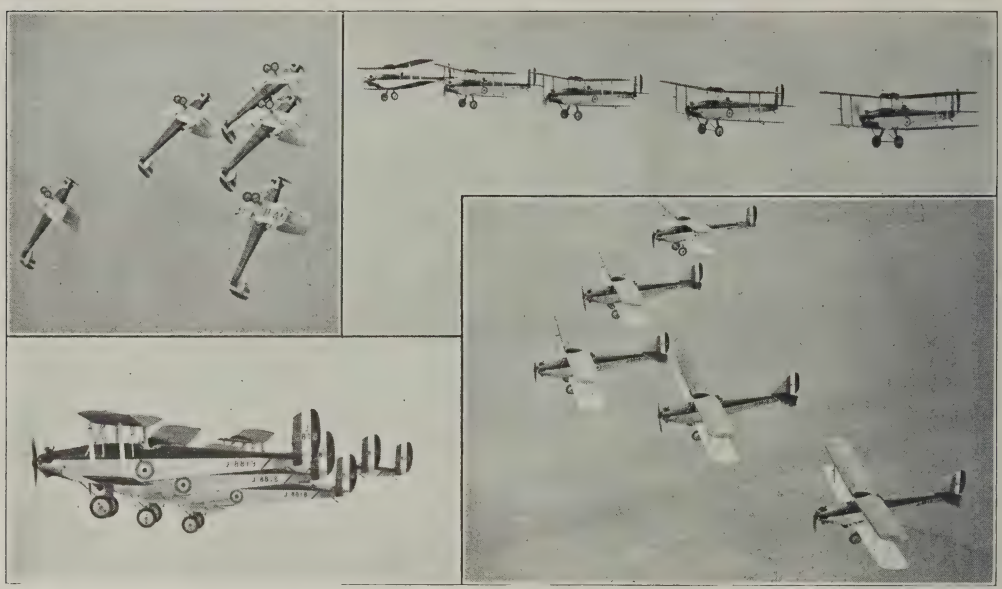
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"BEAUTEOUS AND SWIFT,—THE MINIONS OF THEIR RACE."

(Shakspeare—*Macbeth*.)



THE HIGHER AEROBATICS.—The five De Havilland Moths (Genet engines), flown by Instructors from the Central Flying School, in various attitudes.

They are so big that any Archie gunner who could hit a hay-stack at half a mile on the ground could not very well miss one of them at ten thousand feet (if they ever got as high). And also because of their huge size they can be picked up with the naked eye in the first gleam of dawn where an ordinary aeroplane would be invisible to a telescope. And they carry a big crew of valuable men, all of whom are lost if one machine is hit.

They may be all right for terrorising troublesome tribes who may be overawed by their size and sound. But against a nation with modern armament they would simply be sitters every time.

There is not one solitary thing in real war which this class would have to do which could not be done more quickly, more effectively, more cheaply, and fifty times as safely, by ordinary high-speed long-range day-bombers.

The Parachutists.

A certain percentage of the crowd at Hendon being still somewhat ignorant of air war the big bombers certainly did make a considerable impression. But the thing which really made their appearance worth while was the beautifully timed simultaneous drop of six heroic but anonymous airmen from three machines which came over from the parachute school at Henlow.

As the accompanying photograph shows, all six went off, two from each machine, within about a second of one another, and all landed neatly on the aerodrome. About three years ago one saw three enlisted men of the U.S. Army Air Service tumble overboard from one Martin Bomber at Baltimore. And we took two years after that to adopt parachutes in the Air Force at all. So we are not really doing too badly to stage a formation parachute drop of this sort.

The Re-Appearance of Major Sandbags.

Event No. 8 was a revival of the ever popular destruction of a kite-balloon. Most modern aviators have not even seen a kite-balloon in the air. And the chances are that not one Air Force officer in a dozen to-day can explain how or why a kite-balloon works. But in the next war the kite-balloon of the improved Avorio-Prassone type will be even more useful in lifting balloon-aprons than it was in the last war. And even for artillery observation the old familiar type may still be useful.

In this event a patrol of nine Grebes manœuvred round the victimised kite balloon. One machine detached itself from the formation to shoot down the balloon while the other nine ostensibly protected it from putative enemy aircraft. The balloon was set on fire (by electric contact from the ground), and our old friend Major Sandbags won a second, or possibly a third, bar to his O.B.E. by descending in a parachute. And he did it so realistically that people who did not read their programmes thought he was real.

While the balloon was being brought out a couple of pilots from No. 25 Squadron gave a neat exhibition of air fighting.

Thunder and Flames.

Event No. 9 was the Air Battle over London. No. 39 Squadron from Spittlegate on 9as under Sq. Ldr. H. V. Champion de Crespigny, M.C., D.F.C., and No. 9 Squadron from Bircham Newton under Wing Cdr. B. E. Smythies, D.F.C., on Handley Page Hyderabads (Lion engines), attacked London from the North and were met by intense anti-aircraft fire from the aerodrome, while at the same time they were attacked by No. 19 Squadron on Gloster Grebes (Jaguar engines) under Sq. Ldr. H. W. G. Jones, M.C., and by No. 29 Squadron, also on Grebes, under Sq. Ldr. R. H. G. Neville, M.C., both squadrons coming from Duxford.

The D.H. 9as attacked first, and two of their machines were brought down (by their pilots) in clouds of chemical smoke and lit up by wing-tip flares, which incidentally dropped bits of themselves onto the surrounding landscape. The remaining machines passed on in the direction of London, till turned back by anti-aircraft gunfire.

The single-seaters having attacked head-on, shot away past their tails and had to turn round and chase them. This manœuvre was done on purpose, and according to programme, so as to illustrate faulty air tactics.

Then the twin-engined bombers attacked and lost two of their number, also in flames, to a counter-attack by single-seaters. The remaining Hyderabad left alone by the landing of the two flaming machines put up quite a good show of crazy flying, which probably would in fact have puzzled the attacking machines quite a lot.

What with the banging of the Archies on the ground and the crackling of the machine guns up aloft and the roaring and screaming of the different engines and the smoke and the flames, this was quite a good show.

Some of the older people who remember how extraordinarily nasty it was to be shot down in flames when there were no parachutes (thanks to official stupidity) rather felt that the show was too near the truth to be quite pleasant. But the younger members of the audience who are just young enough to have missed the War, and the still younger members who have only heard of it and its glorious adventures, thought the whole thing very fine indeed.

Them 'Ere Natives.

Event No. 10, the Set Piece, was, as usual, a mixture of comedy and serious Service Aviation. According to the programme it was thus :—

Scene: A native town where a small community of European traders has long been established peacefully pursuing its activities. A

"IT IS MORE WORTHY TO LEAP WITHIN OURSELVES THAN TARRY TILL THEY PUSH US."—(Shakspeare—*Julius Cæsar.*)



THE PARACHUTISTS.—Six men of the R.A.F. making a Hendon Holiday from Vickers Vimys (Rolls-Royce Eagles).

church has recently been completed. A wave of unrest is sweeping the country, and patrolling aircraft from concentrated air forces are searching the countryside on the look-out for signs of violence by the native populace against isolated European communities.

Time: Dawn.

A patrolling aeroplane observes such an outbreak in a town where the Europeans have been isolated in an old mud fort, and are sending up signals of distress; the aeroplane calls for assistance by radio-telephony from the nearest aerodrome (this call will be broadcast amongst the audience). Meanwhile the Europeans manage to break out of the fort and under cover of rifle fire by the men the party succeeds in crossing a bridge over the river, and the women and children flee across the open country away from the town; the men follow gradually, holding up their pursuers with rifle fire.

At this moment a squadron of Fox aeroplanes arrives on the scene and attacks the town and pursuing natives with bombs and machine-gun fire; these attacks are carried out by flight after flight until the bridge is destroyed and the town in ruins, all except the church.

Meanwhile single aeroplanes of the two London squadrons, Auxiliary Air Force, arrive and drop food, water and ammunition by parachute to the European refugees.

Shortly afterwards a relief force arrives in two troop-carrying aircraft (Vickers Victorias) which land and deplane reinforcements with machine guns and light howitzers. This force attacks the village by fire from the ground and kills or drives off the few natievs who have managed to cross the river.

The Vickers Victorias emplane the women and children and convey them to safety.

The episode is concluded by the sounding of the "Cease fire" by trumpeters of the Royal Air Force, while the town is seen burning in the distance.

The Squadrons which took part were: No. 12 Squadron, Andover, under Sq. Ldr. T. E. Salt, A.F.C., on Fairey Foxes with Fairey Felix engines; No. 58 Squadron, Worthydown, under Sq. Ldr. A. T. Harris, O.B.E., A.F.C., on Vickers Victorias with Napier Lion engines; No. 600 Squadron, Hendon, under Sq. Ldr. The Rt. Hon. F. E. Guest, P.C., C.B.E., D.S.O., M.P., on D.H9as with Liberty engines, and No 601 Squadron, Hendon, under Sq. Ldr. The Lord Edward Grosvenor, on D.H.9as with Liberty engines.

The programme does not describe what consfitutes "A native town." Nor does a fairly extensive knowledge of the

"THE HOLIER A[illegible] CITY THE WICKEDER ITS CITIZENS."—*(Arab Proverb.)*



WHERE NATIVES DWELL.—The Magnesium Fort and the Swiss Naval Church getting under way (see text).

King's English explain it. One can only arrive at its meaning by accepting the good old English idea that any kind of coloured person is a native and that white people are made and not born.

The plot of the story seems to be a kind of mix-up of the Boxer Rising in China, Bolshevism in Russia, the Genesis of the Irish Free State, and Sheikh Mahmoud's activities in 'Iraq. You pays your money and you takes your choice.

As to the scene, the mud fort seemed to be of a kind of Arabic-Norman architecture. But the style of the church suggested that it had been built by the Swiss Navy as it was distinctly a clinker-built chalêt, so the R.A.F. was quite right to rescue the folk who built it.

Anyhow, the patrolling aeroplane duly observed the outbreak and the resultant schlemozzle was highly entertaining. When there is a bit of acting to be done there is nothing to touch the Other Ranks of the King's Services. Their discipline makes them extraordinarily amenable to instruction and their natural sense of humour supplies the needed initiative. Anybody who has seen the Tournament at Olympia knows what wonderful actors sailors and soldiers can be. And our airmen are fully up to the standard of the other Services. Whether as persecuted Europeans or polychromatic " natives " the men of the Air Force were a perfect scream.

The aerial acting was just as good. The Auxiliary Air Force came over in a string, dropping bulging bags by parachute, till, as one juvenile onlooker remarked, the fugitives must have been so gorged that they could scarcely get into the relieving machines. But the way the said supplies bounced on hitting the ground suggested that the food was at any rate light enough for the weakest digestion.

When the Fairey Fox bombers arrived the fact became evident that this year delay-action bombs were being used instead of advance-action bombs as last year, when the bombs blew up the target before the machines reached the objective.

This year the explosions did not happen till a couple of seconds after the machines had passed, which was quite wise, because the explosions were somewhat violent and the machines were flying so low that one or other of them might very well have been hit by some of the flying debris. Actually the people on the ground who caused the explosions electrically timed their work very well indeed.

As a matter of fact, three Vickers Victorias landed instead of the two advertised in the programme, and when they took off again, full of the gorged women and children, they took off straight across the trajectory of the light howitzers, Stokes guns, or whatever they were which were firing vigorously from the other end of the aerodrome in the direction of the village.

The violence with which the mud of which the fort was built burned seemed to suggest that there must be an enormously high percentage of alumina, or perhaps even magnesium, in that particular area. So one suggests that we had better help ourselves to a mandate over those natives and proceed to establish there an industry for the manufacture of all-metal aircraft.

Sad to say, also contrary to the programme, the church burned as brilliantly as anything else in the village. And after it had been reduced to a skeleton brilliant lights blazed from its base in a way which suggested that the crypt of the church must have been the resort of bootleggers.

Mrs. C. M. McA., who is apt to be critical of the purely militant side of these affairs, remarks of this event that the troop-carriers had no defending aeroplanes convoying them She also objects that the machine-gun parties went on firing for some minutes after the " Cease Fire " had been sounded, and would like to know whether this was due to air-deafness or lack of fire discipline.

For the benefit of the organisers of the show she suggests that the troops would have shown up better in tropical kit. On the other hand one would suggest that the almost invisibility of the relieving force shows how efficacious the R.A.F. blue-grey will be in a European war. After all the Air Force uniform is not very far removed from the German field grey.

An Idea for 1928.

Further Mrs. C. M. McA. suggests that in order to spike the guns of Pacifists, Bolshevists, Kenworthists, Thurtlists and so forth, the best thing the R.A.F. can do next year is to make the Set-Piece a representation of a part of London, inhabited not by natives but by John Citizen as drawn by Strube in *The Daily Express*. The idea is good. And if it were attacked by bright red Bolshie aircraft, then, by combining this event with the air attack on London, and a plentiful dropping of gas-bombs, something might be done to convince the " Won't Fights " that there is after all a good deal in having an Air Force.

Altogether 1927's was a very good Display. There is bound to be a certain amount of similarity between one R.A.F. Display and another, but the High Authorities are always ready to consider suggestions for improvements or for new and striking ideas. So if anybody has any such ideas they should send them along. In the meantime, congratulations to everybody who had to do with this year's Display.—C. G. G.

DISPLAY IMPRESSIONS.

By W. H. Sayers.

There are two motives which may move one to attend the R.A.F. Display. One is to see the Display, the other to see those of one's old friends who are sure to be there. Unfortunately, the two purposes cannot efficiently be combined. If you talk to your friends you will surely miss the best parts of the flying. If you watch the flying you will miss your friends. The only practical solution to the difficulty that one has yet discovered is to go to the rehearsal on Friday to see the flying and devote Saturday to the other business.

This method has marked advantages—but is not entirely satisfactory. This year's rehearsal was a splendid show, but had not quite the snap of the real display. And although there were fewer of the people to whom one wanted to talk at the rehearsal than at the Display proper, yet it was so much easier to see them and for them to see one's self that the purpose of the visit to the rehearsal became somewhat diluted.

Considering this year's Display as a show of flying it is difficult to see how it could have been bettered. In spite of this one is conscious of some feeling of disappointment. The first R.A.F. Pageant was by far the most astounding flying performance that has ever been seen in this country, and probably in the World. Successive Pageants and Displays have actually maintained the standard set on that occasion, but inevitably one misses now the thrill of that first and unprecedented event. Each year one hopes that the next Display will provide a new thrill, not new merely in detail but in type. Calm and dispassionate consideration shows that such a hope is absurd, but it is none the less natural, and it is a very high tribute to the Display that even those who are sensible of this tinge of disappointment at each successive Display would none of them miss the event if they could possibly help it.

The crazy flying at lunch time by Flt. Lts. Lydford and Fogarty on Lynx Avros was a most remarkable exhibition. One does not know which of these officers was which, but one has unstinted admiration for the faith shown in his undercarriage and his controls by the pilot who careered about the aerodrome on one wheel with an invisible clearance between wing-tip and ground.

From many points of view the contrast between the screaming Foxes of No. 12 Squadron and the rumbling 9as of Nos. 39 and 207 Squadrons in the first event of the afternoon was an excellent feature and serves to emphasise the fact that the R.A.F. is at last getting modern aircraft of really high performance into service. But as a spectacle this event was not nearly so impressive as the group evolutions by six squadrons of Fawns and 9as in 1925. The impression of a sky full of aircraft was missed this year.

The underlying idea of air manœuvres to music is excellent, and some parts of the performance itself were distinctly funny. Owing to the inherent difficulties of broadcasting the squadron leader's orders in sufficient volume there was an appalling amount of distortion in some of the loud speakers in the enclosures, and this distortion also affected the music. As a result over a large proportion of the enclosures neither music nor orders were recognisable except as loud noises. It would produce a better effect were the music only broadcast, as this could be reproduced in a recognisable form.

The parade of experimental types, if smaller in numbers than on some previous occasions was the most interesting in point of view of quality of any yet seen. Particularly impressive were the effects of speed and climb produced by the Bristol Bulldog, the D.H. Hound, the Boulton and Paul Sidestrand and the three new General Purpose machines (the Fairey IIIF, the Vickers Valiant and the Westland Wapiti).

These show performances are apt to be misleading. For instance, the Bulldog being a single-seat fighter must have been carrying nearly normal load, whereas all the heavier class of machines were flying light, giving them a large relative advantage in take-off and climb. But allowing for this there can be no question that the new machines chosen for this year's parade represent a big step forward in performance.

Incidentally, one feels that it is a mistake to include in the one parade aircraft of service, commercial and purely experimental types. It is scarcely fair to a low-powered civil machine such as the Handley Page Hamlet to make it float about the sky alongside a high-performance military

machine. And although the Pterodactyl is an extremely interesting aircraft, it looked out of place in the company in which it found itself on Saturday.

Flt. Lt. Noake's crazy flying on the Mono-Avro was quite as funny as one remembers him to have been in 1921. The simultaneous display by Sq. Ldr. Smart on the Genet Moth suffered seriously in comparison—not because of any defects of handling, but because the Moth is inevitably quicker in movement, and does not lend itself to the absurd solemnity of motion which characterises the 504K Avro when it is appropriately handled.

From the point of view of sheer clever flying the best show of this year's Pageant was undoubtedly the performance of the Genet-Moth formation. Whether this was actually any better than the stunting in formation of the Snipes at the first Pageant one has doubts, but it certainly was no worse. It shows at least that the younger generation of R.A.F. pilots is living well up to the standard of flying set by the very best pilots of the War. When it is remembered from among how many crack war-pilots the very best of 1920 were picked, and how relatively small is the R.A.F. of to-day, it will be recognised that this is not faint praise.

The air battle over London was excellent as a spectacle. The arrangements for producing smoke and flames on the "shot-down" aircraft were astonishingly effective in appearance—and apparently not without danger to some of the surrounding inhabitants. The programme frankly admitted faulty tactics on the part of one fighter squadron, but the whole performance gave one the impression that if the bombers' crews were any sort of marksmen at all the attack on London would have been remarkably successful, and that very few of the fighters would have survived. Most of the defence force seemed to spend their time well within the bombers' fields of fire in a position where their own guns could not be brought to bear. Incidentally one Hyderabad at least showed a manœuvrability that one would scarcely have expected of so large a machine.

The set-piece was the best of its kind yet produced. The "plot" was a reasonable one, and served to display quite a number of different practical uses for aircraft in a disturbed and uncivilised area. There was the inevitable comic opera air about some of the surface operations, but it is not difficult to understand why our Communist friends dislike exhibitions of this type. It naturally does not please them that their potential dupes should be shown how aircraft can be used to restrain disorders of the type they desire so ardently to foment.

THE LONGEST OVER-SEA FLIGHT.

On June 29, Lieuts. Maitland and Hegenberger of the U.S. Air Corps, arrived at Honolulu, after having flown across the Eastern Pacific from San Francisco in a Fokker F.VII-3m. (three 200 h.p. Wright Whirlwind engines).

The distance of 2,400 miles was covered in 25 hours 43 mins. This is the longest flight made entirely over the sea.

ROUND AUSTRALIA.

On June 29, at 14.45 hours, Mr. Kingsford Smith and Mr. Ulm arrived at Mascot aerodrome, Sydney, after having flown round Australia in ten days on a Bristol Tourer (240 h.p. Puma engine).

AMSTERDAM—BATAVIA.

On June 30 the Fokker F.VIIa monoplane (450 h.p. Jupiter engine) in which Mr. Van Lear Black has travelled from Amsterdam, arrived at Batavia.

It will be remembered that the machine was hired from the K.L.M. by Mr. Black, a proprietor of *The Baltimore Sun*, so that he might examine the possibilities of commercial aviation under actual working conditions. It was piloted by Messrs. Scholte and Geysendorfer, both K.L.M. pilots.

The distance of 10,000 miles from Amsterdam to Batavia was covered in 86 flying hours and occupied sixteen days, on three of which there was no flying .

According to *The Times* the management of the Koninklijke Luchtvaart Maatschappij (K.L.M.) believe that this flight brings nearer the opening of regular air services between Great Britain and Australia and Holland and the Dutch East Indies.

In the organisation of the latter service the K.L.M. needs assistance from Great Britain as the route from Holland passes over much British territory. Also the British route to Australia passes over Dutch colonial territory.

Preliminary arrangements for a regular service to the Dutch East Indies have already begun. It is thought that the Dutch service should not begin until Great Britain is ready and can share a combined Anglo-Dutch service.

The Dutch hope that a regular service from Great Britain and Holland to the Dutch East Indies and Australia will, with British help, be established within two years.

THE KING'S CUP COURSE.

The Royal Aero Club received the approval of His Majesty the King of the course for the Air Race for the King's Cup to be held on July 30 at Hucknall, Nottingham.

The total distance of the Race is approximately 540 miles and consists of three courses of approximately 180 miles each.

The first course, which will be flown twice, passes over the Counties of Leicestershire, Rutlandshire, Huntingdonshire, Cambridgeshire, Norfolk and Lincolnshire, and turning points will be at Spittlegate, Huntingdon, King's Lynn, and Cranwell.

The second course passes over Nottinghamshire, Yorkshire, and Lincolnshire with turning points at Howden (Yorks) and Skegness.

The start and finish of each course is at Hucknall, Nottingham, and competitors will alight at the aerodrome there on completing each course and make a stop of thirty minutes.

The Meeting at Hucknall, Nottingham, will extend over the August Bank Holiday week-end.

On Monday, Aug. 1, the programme will consist of Exhibition Flying and short races over a course of ten miles. These Races will include the Grosvenor Challenge Cup for Light Aeroplanes, and a special Race between the Light Aeroplane Clubs for the Challenge Trophy presented by the Society of British Aircraft Constructors. The prizes for these events will amount to about £600.

ANOTHER ATLANTIC FLIGHT.

On June 29, Commander Byrd, U.S.N., Lieut. Noville, U.S.N.R.F., Mr. Bert Acosta and Mr. B. Balchen, late of the Norwegian Naval Air Service, left Roosevelt Field, Long Island, N.Y., on a Fokker F.VII-3m. monoplane (three 200 h.p. Wright Whirlwind engines) in an attempt to fly to Paris.

They left Roosevelt Field at 05.23 hours (New York time) and at 13.00 hours they were reported over Louisburg, Nova Scotia. Later messages reported them to be passing St. Pierre Island, Cape Race, and Fortune Bay, Newfoundland. At 18.39 hours, Commander Byrd reported by wireless that he had run into a fog that covered all Newfoundland and that it was impossible to navigate.

At 02.32 hours on June 30 he reported that he had seen neither land nor water since 16.00 hours the previous day on account of the dense fog and low clouds covering an enormous area. At 08.20 hours, the N.D.L. liner *Berlin* picked up radio signals from the Fokker monoplane and reported that the machine was invisible and that the weather was cloudy with strong N.W. winds. This message indicated that they had covered two-thirds of the distance to Paris.

At 13.26 hours, the French liner *Paris* picked up a message in which they reported that all was going well. And at 18.50 hours Cherbourg picked up a further message from the Fokker giving their position as 35 miles north of Land's End.

After sighting Cape Finisterre, Commander Byrd set a course for Paris, but with night falling, with fog and rain, together with a defective compass, he lost his position, and the next lights seen proved that they had flown in a wide circle and struck the coast again, although it is believed that they were at one time very near Paris.

As their fuel was running low and weather conditions over France were bad it was decided to alight in the sea just off the beach rather than attempt a further effort to reach Paris and probably be forced to land in the dark.

Consequently at 02.30 hours they alighted in the sea, about 200 yards from the beach at Ver-sur-Mer, Calvados, and the crew of four reached the shore safely in a pneumatic raft.

The machine sank in shallow water but it has since been salved and although damaged is repairable.

Throughout the flight, which lasted 40 hours, they experienced rain, wind and fog and for nineteen consecutive hours they saw absolutely nothing. Most of the flight was made at 10,000 ft. and it was the attempt to avoid the extreme cold that forced them to go so far off their course.

Their wireless and compasses, all of which seemed to have failed them after reaching France, worked well over the Atlantic, and their ability to pick up several steamers from whom they got their bearings, certainly justified the fitting of full wireless equipment. This is borne out by the fact that with wireless and working compass they were able to cross the Atlantic and strike Cape Finisterre in spite of the dense fog, yet without these accessories they hopelessly lost themselves over the comparatively short distance between the coast and Paris.

On July 2, they proceeded to Paris and on the following day they were entertained to a luncheon at the Cercle Inter-Alliée by a distinguished gathering, which included M. Bokanowski (Minister of Commerce), M. Laurent-Eynac, M. Pierre Etienne Flandin (President of the Aero Club de France), M. Louis Blériot, and many others. During the afternoon they were received at the Elysée by President Doumergue.

THE ROYAL AIR FORCE.

The London Gazette.

June 28.

General Duties Branch.—Flt. Lt. V. P. Feather is granted a perm. comn. with effect from June 1; Flg. Off. F. F. Inglis is placed on half-pay, Scale B, July 5 to 31, 1927, inclusive; H. F. Baker, Lt. (E.), R.N., Flg. Off., R.A.F., relinquishes his temp. comn. on being placed on the retired list of the R.N. on account of medical unfitness (May 28).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. as Plt. Offs. on probation:—Class A.A.—R. Anderson, J. M. Greenwood, J. A. C. Northway (June 13). Class B.B.—R. Bance, A.F.M. (June 28). Plt. Off. on probation M. T. Bromley is confirmed in rank (Apr. 12); Flg. Off. R. G. R. Godby is transferred from Class C to Class A (Apr. 14).

The following relinquish their comns. on completion of service:—Flg. Off. J. Robertson (June 9); Flt. Lt. G. H. Hooper (June 13); Flg. Off. C. H. Boreham, Flg. Off. J. Piggott, Flg. Off. F. S. Stokes (June 17); Flg. Off. E. F. Haselden (June 24); Flt. Lt. R. H. Smyth, M.C. (June 25).

Flt. Lt. T. J. West, M.C., relinquishes his comn on account of ill-health, and is permitted to retain his rank (May 26); Flg. Off. J. A. Middleton, M.C., relinquishes his comn. on account of ill-health, and is granted the rank of Flt. Lt. (June 29). The comns. of the following Plt. Offs. on probation are terminated on cessation of duty:—C. W. Harvey (May 27); E. J. Davis (June 10)

Princess Mary's R.A.F. Nursing Service.—The following Staff Nurses are promoted to the rank of Sister:—Miss A. M. Herd (June 3); Miss L. B. Cartledge (June 13).

The Half-Yearly Promotion List.

Air Ministry, July 1. Royal Air Force. The following are promoted with effect from July 1:—

General Duties Branch.—Wing Commander to be Group Captain.—A. V. Bettington, C.M.G.

Squadron Leaders to be Wing Commanders.—R. H. Peck, O.B.E., W. J. Y. Guilfoyle, O.B.E., M.C., J. Sowery, A.F.C., F. W. Stent, M.C., H. Gordon-Dean, A.F.C., R. M. Field, A. T. Harris, A.F.C., E. R. L. Corballis, D.S.O., O.B.E.

Flight Lieutenants to be Squadron Leaders.—P. G. Scott, C. E. W. Foster, S. N. Cole, F. Fernihough, M.C., M. L. Taylor, A.F.C., H. G. R. Malet, J. H. O. Jones, H. A. Whistler, D.S.O., D.F.C., M. B. Frew, D.S.O., M.C., A.F.C., C. St. Noble, H. M. K. Brown, A. S. G. Lee, M.C., R. L. Stevenson, M.B.E., T. F. W. Thompson, D.F.C., J. P. Coleman, A.F.C., G. G. Dawson, E. G. Hopcraft, D.S.C.

Flying Officers to be Flight Lieutenants.—F. W. W. Wilson, L. de V. Chisman, J. H. Hargroves, R. S. Bruce, M.B.E., E. J. Ffoulkes-Jones, E. S. Steddy, C. C. Bazell, E. S. Borthwick-Clarke, F. S. Wainscot, H. J. Brown, A. P. White, C. O. Towler, D.S.M., R. Menzies, J. Bradbury, W. E. Dipple, H. E. Falkner, F. T. Eades, D.F.C., J. S. Nichol, G. P. H. Carter, C. Walker, S. J. Smetham, J. Glover, F. W. Sinclair, D.F.C., R. E. H. Allen, H. J. Adkins, V. Rees, W. E. James, G. Brooks, A. G. Thackray, F. Jezzard, M.B.E., E. D. Barnes, S. N. Webster, A.F.C., A. Hesketh, D.F.C., A. E. Beilby, N. V. Moreton, R. W. F. Dunning, G. E. Newton, A. H. H. Macdonald, R. W. Hill, A. T. K. Shipwright, D.F.C., H. R. McL. Reid, D.F.C., F. F. Inglis, M. W. C. Ridgway, T. H. French, D.F.C., O. E. Worsley, E. F. Haylock, T. B. Bruce, M.C., L. G. Nixon, J. L. Airey, D.F.C., H. N. Thornton, F. W. Long, G. H. Vasse, J. D. I. Hardman, D.F.C., J. Marsden, G. G. H. Du Boulay, C. W. Weedon, G. R. C. Spencer, H. G. Brookman, M. H. Ely, R. L. Ragg, J. N. Bootham, T. W. S. Brown, B. E. Embry, A.F.C., G. A. Hadley, A. D. H. Foster, F. A. Swoffer, M.B.E., F. E. Vernon, F. C. Marsh, J. B. H. Rogers, E. A. Hodgson.

Flying Officer (Hon. Flight Lieutenant) to be Flight Lieutenant.—I. E. Brodie.

Lieutenants R.N., Flying Officers R.A.F., to be Flight Lieutenants.—E. J. S. Knocker, S. Richardson, E. W. Anstice, C. J. N. Atkinson, A. M. Kimmins.

Stores Branch.—Squadron Leaders to be Wing Commanders.—W. J. Shields, G. A. Hilliar.

Flight Lieutenants to be Squadron Leaders.—H. S. F. T. Jerrard, J. Walker, A. J. Briddon, A. W. Smith, A. W. Turner, D.C.M., C. M. Bevan.

Flying Officers to be Flight Lieutenants.—S. D. Dennis, F. A. Skoulding, A. P. Woollett, A. T. Wells, A. Walters, E. I. T. Duffield, A. S. Berry, C. A. Longhurst, S. Bingham, L. N. Sargent, H. A. Williams, R. W. Stewart, T. H. Jolley, E. S. Bullen, M.B.E.

Accountant Branch.—Flying Officers to be Flight Lieutenants.—E. W. Horncastle, G. W. Lynn, V. G. A. Bennett, R. E. Barrett.

Medical Branch.—Wing Commanders to be Group Captains.—A. V. J. Richardson, O.B.E., M.B., D.P.H., J. McIntyre, M.C., M.B., M.A.

Squadron Leader to be Wing Commander.—H. A. Hewat, M.B., D.T.M. and H.

Flight Lieutenant to be Squadron Leader.—P. C. Livingston, B.A., F.R.C.S.(E.), D.P.H., D.O.M.S.

Flight Lieutenant to be Honorary Squadron Leader.—F. J. P. Saunders, B.A.

Princess Mary's Royal Air Force Nursing Service.—Acting Senior Sister to be Senior Sister.—Miss Winifred Eveline Molesworth.

Sister to be Acting Senior Sister.—Miss Bessie Cowie Simpson Forsyth.

Appointments.

Week ending July 3.

General Duties Branch.—Squadron Leaders A. S. Morris, O.B.E., to H.Q., Egypt, 9/6. R. P. Willock, to Air Ministry, Deputy Directorate of Organisation, 1/7.

Flight Lieutenants C. E. Williamson-Jones, D.F.C., to R.A.F. Depot, Uxbridge, 17/6. H. H. Down, A.F.C., to R.A.F. Base, Gosport, 20/6. F. H. D. Henwood, D.F.C., to R.A.F. Depot, Uxbridge, 3/6. A. H. Orlebar, A.F.C., to R.A.F. Depot, Uxbridge, 21/6.

Flying Officers J. E. Davies, to No. 45 Sqdn., Egypt, 1/6. W. Dickison, D.S.M., and C. G. C. Woledge, to R.A.F. Base and Stores Depot, 'Iraq, 17/6. T. H. Moon, to M.A.E.E., Felixstowe, 22/6. J. H. C. Wake, to A. and A.E.E., Martlesham Heath, 25/6. C. J. Veevers, to No. 28 Sqdn., India, 26/5.

Stores Branch.—Flight Lieutenant R. G. Gore, to No. 14 Sqdn., Palestine, 7/6.

Flying Officer H. O. Fellowes, to R.A.F. Base and Stores Depot, 'Iraq, 17/6.

Accountant Branch.—Flight Lieutenant R. H. Cleverley, to R.A.F. Base and Stores Depot, 'Iraq, 17/6.

The Service Far-East Flight.

The Air Ministry makes the following announcement in connection with the forced landing of the R.A.F. Hawker Horsley at Martlesham Heath aerodrome on June 18:—

Thirty minutes after starting from Cranwell the oil temperature rose to an excessive height while the oil pressure dropped very greatly. This rendered it necessary for the machine to land. The engine was taken out and thoroughly examined and tested at Rolls-Royce works as soon as possible after the flight and was found to be running perfectly. An Air Ministry representative was present at these tests.

The necessity for running the engine at full throttle when carrying so big an overload causes additional heat to be developed in an engine and, although no trouble from this cause was experienced on the first flight, it is recognised that the margin is a small one and in any further trials the aeroplane will be fitted with an oil cooler to reduce the temperature of the oil in the tank which supplies oil to the engine.

The R.A.F Dinner Club.

The Annual Dinner of the R.A.F. Dinner Club took place at the Connaught Rooms on July 1. The Chief of the Air Staff, Marshal of the Royal Air Force Sir Hugh Trenchard, was in the Chair, and practically all the senior officers of the Royal Air Force who are in this country were present.

As the gathering is organised in order to give past and



A SERVICE TYPE.—A Fairey IIIF. (Napier Lion), fleet spotter, deck-lander, day-bomber, and general service machine, which has a speed higher than that of all but a few single-seat fighters.

present members of the R.A.F. a chance of meeting and talking over old times there were no speeches, but there was a unanimous demand that Sir Hugh Trenchard should say a few words. As the Dinner was not a public occasion one cannot very well report what he said. One may, however, publish the fact that there were 145 officers present as against 81 last year.

The increased number is largely due to the fact that the Independent Force Dinner and 20 Squadron Dinner and two or three others have been washed out, and their members have decided to support the R.A.F. general dinner in future. As one of those who had the honour of helping to found the Dinner Club a good many years ago one is naturally glad to see that events are working out as they were then foreseen by Wing Commander M. G. Christie and the late Squadron Leader Vivian Robeson.

Perhaps one may be permitted to record the fact that in the course of his remarks Sir Hugh Trenchard said that the flight from Cairo to the Cape and back to co-operate with the South African Air Force would in future be an annual affair, and that in order to maintain the standard of flying in the R.A.F. long distance flights similar to that from England to India would be organised regularly in the future. The pilots for such flights would be selected, they would not be asked to volunteer.

One gathers that the intention of the Committee of the Club is to confine the membership to such a number as will produce a dinner of about 200 people, allowing for members abroad and others unable to attend. This year's Dinner shows that that number must be very nearly approached, so past and present officers of the R.A.F. who want to join the Dinner Club will do well to get in touch now with the Secretary, Flt. Lt. E. B. C. Betts, D.S.C., D.F.C., instead of waiting till arrangements are being made for the next dinner a year hence, when they may find themselves crowded out.

The whole show was most enjoyable, for, owing to the absence of speeches and other forms of alleged entertainment, the members were able to get together and talk by about 22.00 hours and talk continued vehemently until closing time. Altogether, as always, this was one of the most pleasant gatherings of the year.—C. G. G.

The R.A.F. at Bisley.

The R.A.F. results at the Services Rifle meeting at Bisley on June 28, 29, 30 and July 1 were :—

Tyros Cup.—10 round rapid and 10 rounds snap at 300 yards; seven rounds deliberate at 600 yards; h.p.s., 135 points :—1, Cpl. Colson, Uxbridge, 99; 2, F-S. J. F. Bould, Gosport, 94; 3, Cpl. A. Arrow, Gosport, 94; 4, AC. E. King, Flowerdown, 92; 5, S-M. B. Beal, Flowerdown, 92; 6, AC. F. Mansell, Gosport, 90.

Chief of the Air Staff's Cup.—Standardised Service conditions :—H.p.s. 1,600 points (not officially confirmed) : 1, Gosport, 1,033 points; 2, Calshot, 1,030; 3, Flowerdown, 1,024.

R.A.F. Rifle Championship, final stage.—N.R.A. Queen Mary conditions; h.p.s. 200 points, plus first stage score :—1, Flg. Off. S. Wallingford, Calshot, 314; 2, Flt. Lt. W. E. Staton, Calshot, 311; 3, Cpl. Hulse, Cranwell, 300; 4, Flt. Lt A. E. Dark, Eastchurch, 293; 5, S-M. B. Earl, Flowerdown, 291; 6, L-AC. McNair, Henlow, 290; 7, Flt. Lt. R. Greenslade, Cranwell, 288; 8, Wing Cdr. S. Grant-Dalton, Eastchurch, 283.

Revolver Championship.—1, Wing Cdr. S. Grant-Dalton (Eastchurch), 160; 2, Flt. Lt. W. E. Staton (Calshot), 158; 3, Wing Cdr. R. J. Barton (Duxford), 152; 4, Sjt. J. Worden (Eastchurch), 144; 5, Sq. Ldr. the Hon. R. A. Cochrane (Andover), 142; 6, Flt. Lt. C. W. Hill (Henlow), 140; 7, Flt. Lt. J. L. K. Pearce (Cranwell), 138; 8, Flt. Lt. R. S. Greenslade (Cranwell), 136.

Automatic Pistol Championships (Individual).—1, Wing Cdr. S. Grant-Dalton, 125; 2, Flt. Lt. W. E. Staton, 118; 3, Flt. Lt. R. S. Greenslade, 117; 4, Flg. Off. S. Wallingford (Calshot), 110; 5, Sjt. L. Worden, 110; 6, Flt. Lt. J. L. K. Pearce, 107; 7, F-S. F. H. Ford (Halton), 100; 8, Flt. Lt. A. E. Dark (Eastchurch), 94. Team) :—1, Eastchurch, 402; 2, Cranwell, 365; 3, Calshot, 336; 4, Halton, 305; 5, Gosport, 304; 6, Andover, 274; 7, Flowerdown, 253; 8, Digby, 247; 9, Uxbridge, 240.

Halahan Cup.—Aperture Sight Match, King's second stage conditions :—1, Cpl. S. W. Hulse (Cranwell), 143; 2, Sq. Ldr. J. K. Wells (Woolwich), 141; 3, Sjt. T. Cresswell (Halton), 141.

In the Methuen Cup for All Services, Nominated Teams of eight, N.R.A. Queen Mary Conditions, h.p.s. 1,600, the R.A.F. Inland Area Team was fourteenth with 806 and the R.A.F. Coastal Area Team sixteenth with 735.



THE DURSTON CHALLENGE CUP.—The Transport Section (R.A.F., Old Sarum) Boxing Team who won the Inter-Section Challenge Cup presented by Wing Cdr. C. C. Durston. Left to right (standing) AC. Murray, L-AC. Hague, L-AC. Thompson, AC. Rudder, AC. Coggins, AC. Ing. (Sitting) Sjt. Hughes, Flg. Off. A. C. Watkins, Flt. Lt. G. H. Russell, D.F.C., S-M. Haynes, AC. Bacon. (On the ground), AC. Robinson, AC. Gordon.

AIR AFFAIRS IN PARLIAMENT.

AVIATION IN THE CROWN COLONIES.

In the House of Commons on June 27, in reply to a question by MR. HAYDAY, the UNDER-SECRETARY OF STATE FOR THE COLONIES said that no private company had at present any concession for operating commercial aircraft in any non-self-governing Colony.

THE R.A.F. IN CHINA.

In the House of Commons on June 28, in reply to a question by LT.-CDR. KENWORTHY, the SECRETARY OF STATE FOR AIR said that the Fleet Air Arm Units in China had been drawn from Home waters and from the Mediterranean. No. 2 Sqdn., R.A.F., had been drawn from Manston and additional Army co-operation observers from Farnborough. No steps were being taken to replace them. LT.-CDR. KENWORTHY suggested that in view of the long stay of the expeditionary force in China steps should be taken to replace these Units. SIR SAMUEL HOARE said that depended on the time they would be required to stay there. LT.-CDR. KENWORTHY asked if in the meantime the Fleet would be deprived of specially trained pilots for Fleet purposes. SIR SAMUEL HOARE : "No, Sir."

In the House of Commons on June 29, in reply to a question by COL. DAY, the UNDER-SECRETARY OF STATE FOR AIR said that the Government of the Union of South Africa had requested the Air Ministry to place on their behalf a contract for a mooring mast base in that country, but the details had not yet been settled. The actual expense that will be involved could not therefore be definitely stated, but it would be defrayed by the South African Government. COL. DAY asked if any other Government had requested the Air Ministry to provide mooring masts. SIR PHILIP SASSOON believed the Government of Canada had asked for a mooring mast. SIR W. DAVIDSON, with painful recollections of a visit to Pulham, asked if the mooring masts were being made with lifts.

THE R.A.F. DISPLAY.

In the House of Commons on June 29, in reply to a question by MR. RENNIE-SMITH, the UNDER-SECRETARY OF STATE FOR AIR said that the R.A.F. Display, as in previous years, would be fully representative of the different aspects of the work of the R.A.F. and would afford the public an opportunity of witnessing the progress made in both civil and military aeronautics.

MISS WILKINSON was afraid that part of the Display, such as the bombing of villages, was unsuitable for young children. MR. MONTAGUE asked if the Air Ministry would consider importing a few barbarians for the Display. SIR PHILIP SASSOON said that 73 invitations to the Display rehearsal had been issued to educational committees and 50 invitations had been accepted up to the present. MISS WILKINSON asked again if these Displays were suitable for young children to witness. SIR PHILIP SASSOON : "Certainly." MR. THURTLE thought that there was a contradiction between the Sermon on the Mount and this particular display at Hendon. SIR H. BRITTAIN asked if it was not better for them to witness British pluck in the air than to pay a visit to Soviet Russia. MR. PONSONBY suggested that the effects of poison gas should be included in the Display, and LADY ASTOR thought the Display was not for military purposes only.

A NOTABLE ADDITION.

His many friends in Canada and in the United States will be glad to hear that Major R. A. Logan, who has done a vast amount of air survey work in Canada and for the Fairchild Co. in the States, has joined the Aircraft Operating Co. Ltd. as one of that firm's expedition managers.

Before the War 1914-18 Major Logan was a Dominion land surveyor and had a great deal of experience in Northern Canada. At the beginning of the War he was put in charge of the School of Ground Instruction at Camp Borden, to deal with wireless, meteorology, navigation, and so forth. In 1923, because of his knowledge of these subjects, he was chosen to go with the Canadian Arctic Expedition and make a report on flying conditions in the Far North, and the Department of the Interior were very pleased with the work which he then did.

After leaving the Canadian Service the Fairchild Co. engaged him to take charge of their mapping division in New York, and with that firm he did very valuable work. He left them last Autumn because he wished to get out into the field again.

Major Logan has a wide range of experience and scientific knowledge of all those subjects which have to be handled in air surveying. The present intention is that he shall go out to the expedition which is now working in Northern Rhodesia for the Congo Border Concessions, and thereafter he will probably go elsewhere in command of another of the firm's air survey expeditions which is now being organised.

THE R.A.F. IN CHINA.

The following information regarding "The Royal Air Force in China," to quote its official designation in the current Air Force List, has been collected from various reliable sources :—

H.M.S. "Argus."

The wholesale confusion caused by the hurried embarkation of the original Shanghai Defence Force was complicated in the case of H.M.S. *Argus* by the fact that the ship was only commissioned a week before her sailing and everyone, Naval and Air Force alike, was new to her. Also ninety per cent. of the R.A.F. personnel had never been to sea before in their lives.

This was not the worst of their troubles however. For the five days preceding departure vast quantities of aircraft and stores of all sorts arrived from all over the country and there was nothing to indicate what the stuff was, who it was for and how much more there was to follow. There was no time to sort it out or stow it properly on board. However it was all dumped on board and with twenty-four hours to stow and secure for sea.

H.M.S. *Argus* sailed on Feb. 1. The aircraft were dismantled but uncased and the machines were stacked in the ship's hangar in tiers, the planes in batches on their leading edges down one side and the fuselages, nose to tail like sardines, down the other side. The narrow gangway left in the middle was the only through gangway fore and aft of the ship which did not add to the safe maintenance of the aircraft.

The eight days' voyage to Malta was spent in sorting and restowing the stores and equipment and at Malta a further batch of machines had to be packed in. Fortunately the weather for the rest of the voyage remained fairly good, as any shifting of the cargo in the hangar would have been comparable to the scene on the lower deck on the famous occasion when, according to Kipling, Mulholland made his Contract with God.

During their passage through the Canal a flight of Vickers Victorias from No. 216 (Bombing) Squadron flew over the ship and dropped a message wishing the Expedition good luck. The Aden Flight (No. 8 (Bombing) Squadron) also turned out.

From Aden onward it was uncomfortably hot. The ship has no cooling arrangements at all and with her vast side-surface was like an oven. So everybody was glad to reach Hong-Kong.

They reached Hong-Kong in the middle of March and found H.M.S. *Hermes* there and a few other ships. But most of the Fleet had moved to Shanghai and the ports up the Yangtse.

There was a certain amount of delay in unloading the *Argus* at Hong-Kong because the shore accommodation was not ready. Everyone was anxious to get the machines erected and tested and the pilots and observers all needed practice in seaplane work, most of them never having flown off or onto water. All the machines had to be erected and rigged as seaplanes.

The *Hermes* Flights, on the other hand, had had five or six months to settle down and had everything in first class order.

About Mar. 20, when the Cantonese troops were advancing on Shanghai, H.M.S. *Argus* was ordered to proceed there with all possible speed. Unloading the aircraft was carried out under worse difficulties than the original loading rush at home because the ship was lying in mid-stream and lighters had to be used, thus doubling the handling of everything. Lighters were hard to get and the towing arrangements usually broke down. The unfortunate aircraft suffered a certain amount but on the whole they stood up marvellously to the strain.

H.M.S. *Argus* approached Shanghai on Mar. 26 and anchored off Woosing at the entrance to the Whang-poo river. Here the ardour of the "troops" was somewhat damped by the news that permission had not been received for them to fly over Chinese territorial waters owing to International Conventions.

The delay was welcome in one way because it gave the R.A.F. time to complete the erection of the aircraft and fix bomb-racks and other necessary gadgets. After lying off Woosing for five days they moved up to Shanghai itself and the embargo on flying was removed.

From the point of view of seaplane flying Shanghai is described as practically hopeless. The river there is narrow and constantly blocked with shipping of all sorts. However flying goes on,—the machines getting on and off the water whenever a small space appears. One machine hit the sail of a junk and cart-wheeled into the river but the crew were rescued unhurt.

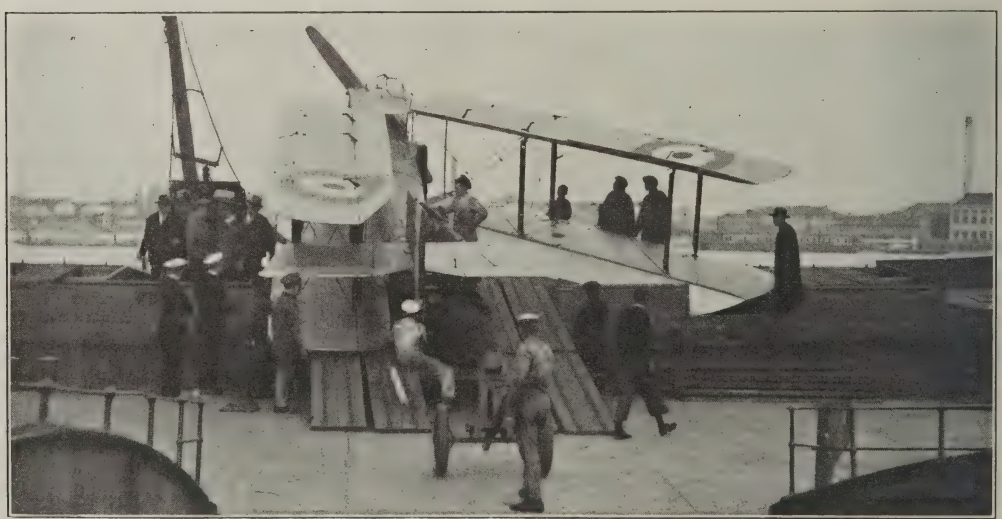
One of the Flights was ordered ashore to work with the Shanghai Defence Force and for this purpose the only possible aerodrome was the race-course, which is in the middle of the city and surrounded by buildings. The machines were re-rigged and fitted with land-carriages again and were landed by lighter, full-rigged with the wings folded and towed through the town from the landing-stage to the race-course. There was no crane at the shore end and they had to be men-handled from the lighters to the jetty.

However, no damage was done and all six machines were in the air the next morning—which speaks very well for the efficiency of the Flight. They had to be kept on the quay-side until after the streets were cleared at "Curfew."

The flying conditions on the race-course are bad, although a good many of the obstructions have been moved. The Chinese were unexpectedly interested and for the first few days before proper arrangements had been made for dealing with them vast crowds swarmed all over the landing-ground.

Shanghai.

The situation in Shanghai is well put in a letter from an Englishman there to a friend at home. He says that Shanghai itself presents an interesting spectacle. Just after the Cantonese had captured the city there was a certain amount of tension. There were a good many troops (Chinese) all round the Settlement and there was always a

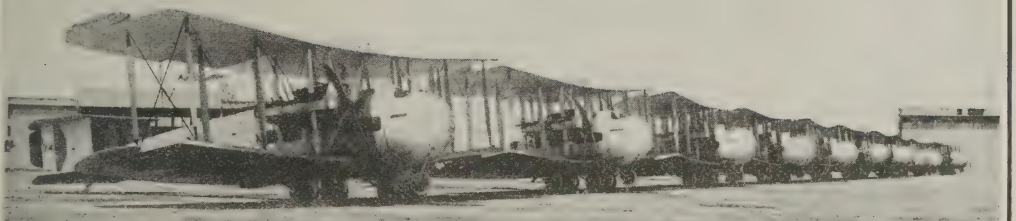


MAN-HANDLING.—Getting the Fairey IIIDs ex H.M.S. "Argus" onto the dock at Shanghai from lighters.

VICKERS LIMITED

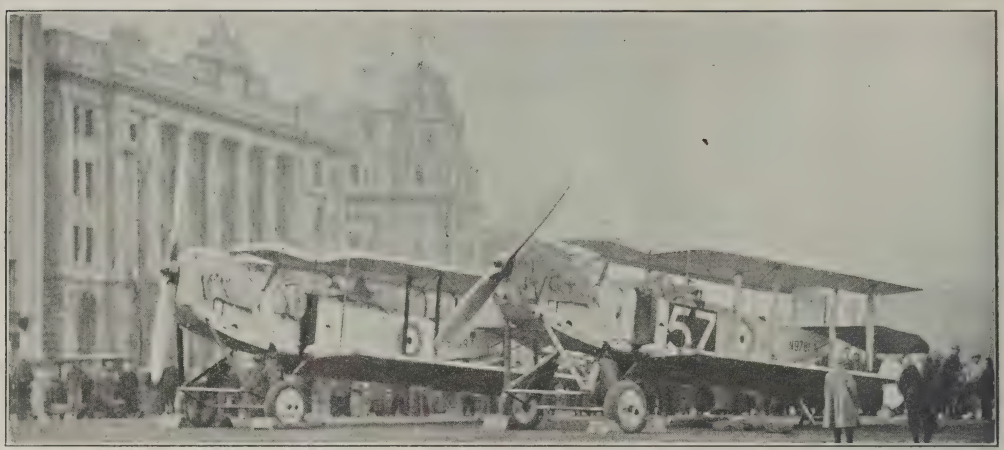
Aviation Department,
Vickers House, Broadway,
LONDON, S.W.1.

AEROPLANES, FLYING BOATS,
AMPHIBIANS AND SEAPLANES
FOR
COMMERCIAL, MILITARY
AND NAVAL USE.



A Squadron of Vickers "Vernon" (Napier Lion Engines) Troop Carrier and Ambulance Aircraft in Iraq, where they are employed by the Royal Air Force in the maintenance of our Imperial Lines of Communication.

R.A.F. Photograph.
Crown Copyright Reserved.



CARENDO TUTUS.—Two Fairey IIID.s (Napier Lion engines) of the Shanghai Defence Force. The Secretary of State for Air announced in the House of Commons on Apr. 28 that the strength of the Air Units then in or on their way to China was the equivalent of five squadrons of aeroplanes with a personnel of 700 of all ranks.

danger from mobs and mass violence from within. But the Cantonese, when they had taken a measure of the strength of our Defence Force, very wisely decided not to make any attempt on us and transferred themselves to their own war area.

The Communists, the gun-men and the labour-unions, etc., remained, but they were very soon afterwards shot-up and disbanded by their own Cantonese friends and since then all has been quiet here.

The City still, however, presents a curious sight with its throbbing activities and its teeming thousands of inhabitants carrying on amidst all the accoutrements of war, barbed-wire entanglements, machine-gun posts, sand-bag defences, armed sentries at street-corners and so on. Apart from this, the Shanghai Defence Force seems to spend most of its time at tennis parties, dances, tea parties, dinners, etc. Which, he says, is hardly what they went so far from home to do. He thinks that Shanghai is probably one of the few places left with opportunities for a young man, for it is enormously wealthy and hasn't nearly finished growing yet. But, according to him, the Shanghai Defence Force thinks it has been there about long enough.

GENERAL BALBO IN ENGLAND.

On Wednesday, June 29, General Balbo, the Italian Assistant-Secretary for Air, arrived at Croydon in the worst possible weather, having piloted himself from Paris accompanied by an officer of the Regia Aeronautica who had been his flying instructor until he qualified for his wings on June 23.

On Thursday evening General Balbo was entertained to dinner at the Savoy by the Italian Air Attaché, General Guidoni, himself one of the great pioneers of European aviation. The guests included the Lord Thomson, Air Vice-Marshal Sir Sefton Brancker, Col. the Master of Sempill, Squad. Comm. James Bird, Mr. Oswald Short, Mr. Harold Perrin, Mr. Handley Page, Major Harmon (the U.S. Air Corps Attaché), Commander Bos (the French Air Attaché), Col. Mossberg (the Swedish Air Attaché), and various members of the Italian Embassy.

General Balbo is one of the most interesting characters who has visited this country in connection with aviation. He is a young man for his position, for he is only 31 years of age. Yet, as already recorded in this paper, he was one of "The Big Four," the Fascist Leaders who captured Rome from the Communists four or five years ago.

He is a true Italian of ancient family from Ancona, of a physical type which one sees in portraits of the great leaders of mediæval Italy. Leadership runs in his family, for his grandfather was one of the leaders of the Risorgimento which led to the consolidation of the Kingdom of Italy. At the dinner it was quite interesting to contrast his Northern type with the purely Roman physiognomy of Prince Colonna, whose face might have come straight off a coin of a Roman emperor.

General Balbo is described by his admiring fellow-countrymen as dynamic. That is precisely the word for him. And it is his dynamic power which is doing such good work in building up Italy's Air Power to-day.—C. G. G.

THE SECRETARIATS OF THE AIR LEAGUE.

His many friends in aviation will regret very much to hear that Mr. Douglas Gordon who has for so long been Secretary of the Air League has been retired. When one had the opportunity of talking to General Groves recently he expressed the hope that Mr. Gordon might long continue to do the general secretarial work of the League, while he himself was left free to do the organising and propagandist work which is so much needed outside.

One gathers, *not* from General Groves, that the work of the two Secretariats will now be combined. This must necessarily mean loading upon General Groves a burden of which he ought to be left free if he is to use his talents and energy to the best advantage. So apparently, the Governing Council, or whatever it calls itself, of the Air League seems inclined to continue its old silly policy of spoiling the ship for a ha'porth of tar, while at the same time sticking its finger into a pie with which it has no business to interfere.—C. G. G.

THE NATIONAL FUND BALL.

The Aviation Ball at the Mayfair Hotel on June 30 to inaugurate the National Aviation Fund was quite a success. There were some 300 people present. At any rate the big ball room was quite as crowded as was pleasant.

Among those who honoured the party with their presence were General Balbo and General Guidoni and a party from the Italian Embassy. And in spite of the affair having been boycotted by the older organisations of the aeronautical community quite a number of well-known people concerned with aviation were there.

Probably the National Fund will not make an enormous profit out of each ticket sold, but the party has at any rate given the Fund a good send-off, and one hopes that good results will follow. As the National Fund, the Chairman of which is Lord Thomson, who is also Chairman of the Royal Aero Club, has no particular axe to grind, but is merely out to interest people in aviation and to devote whatever money it can get together to the general good of aviation, it certainly deserves success.

THE GERMAN AIRCRAFT INDUSTRY.

On Mar. 28 the Verband Deutscher Luftfahr-zeug Industrieller (Union of German Aircraft Constructors) was dissolved and the Reichsverband der Deutschen Luftfahrtindustrie (Reich Union of the German Aircraft Industry) was founded in its place.

The following firms belong to the newly-founded body :—*Albatros Flugzeugbau G.m.b.H.*, Berlin-Johannisthal; *Arado G.m.b.H.*, Berlin; *B. F. W.-A.G.*, Augsburg; *B.M.W.-A.G.*, Munich; *Caspar-Werke A.G.*, Travemünde; *Deutsche Luft-Hansa*, Berlin; *Dornier-Metallbauten G.m.b.H.*, Friedrichshafen; *Gothaer Waggonfabrik*, Gotha; *Ernst Heinkel Flugzeugwerke G.m.b.H.*, Warnemünde; *L.F.G.-G.m.b.H.*, Stralsund; *Rohrbach Metallflugzeugbau G.m.b.H.*, Berlin; *Siemens and Halske A.G.*, Berlin.

This body, assisted by the Deutsche Luft-Hansa, is organising an International Aero Exhibition to take place in Berlin in June, 1928. The exhibition will be held on the fair ground of the Kaiserdamm and a special aerodrome for exhibition flying is to be laid out on the edge of the Grunewald.

A STEP-SON OF THE R.F.C.

["War Birds," the Diary of an Unknown Aviator. 277 pages. 26 illustrations by Clayton-Knight. John Hamilton Ltd. Aeronautics Ltd., 14, Bream's Buildings, London, E.C.4. 15s. net.]

On Sept. 21, 1917, *R.M.S. Carmania* sailed from Halifax Harbour convoyed by British destroyers and carrying on board, amongst other assorted troops, 150 U.S. Army Air Service Cadets. After being turned out of the School of Aeronautics at Oxford, emerging from the wreckage of innumerable crashes at Stamford and surviving the Fighting School at Ayr, three of them were posted to No. 85 Squadron, R.F.C., then stationed at Dunkirk. This book is the war diary of one of the three. It is written in the vivid and picturesque language of young America and the Diarist was something of a poet and a good deal of a philosopher. There is no striving after effect, and the diary was obviously never intended for publication.

He shows a keen appreciation of English scenery and an even keener appreciation of British characteristics. During his first week in England he wrote :—"This is the most charming country I ever dreamed of," and, "Everyone over here is so damn polite. I know now why they always think of us as savages." He was hurt at the hostility of an Irish private he met in a bar at Oxford. "He wanted to know where we had been for the last three years. I wonder how much of that feeling there is. I wonder if some of the boys have been going around bragging. No one gives a damn, but I had rather these people would think well of us and feel kindly towards us, for, after all, we are their cousins."

The position of these Cadets was a peculiar one. One of them, Springs, was a Serjeant, but, as the Author explains, he had no authority to back him up and according to the Constitution no officer of an foreign army could "discipline" an American soldier. The Author however was prepared to support Springs if anyone caused trouble and says, "I can't put him in the guard room but I can put him in the hospital."

The description of the days at Oxford is a saga of alcohol but it is good reading all the same. At Stamford some of these American Cadets were present on the historical occasion when a new C.O. arrived and told the pilots under instruction that they were all going solo that afternoon. The old story gets new life from the trans-Atlantic point of view. From Stamford they went to Thetford. "We have the same sort of wild kids here for instructors that we had at Oxford, only more so—wilder and younger. I was told that they kill off more instructors in the R.F.C. than pupils and from what I've seen I can well believe it."

In the New Year (1918) they went to London Colney, which they found conveniently near to London which the author describes as a town after his own heart. They all fell in love incessantly between drinks.

One youthful cadet made a valuable discovery which was duly noted by the careful diarist. "You can cuss before any lady in England and she will probably cuss back at you but if you let your tongue slip before a barmaid, woe be unto you." It cost the cadet 30 days' C.B.

Leave was pretty frequent from London Colney and there are numerous alcoholic and other recollections and an illustration of English tact. In intervals of leave the Author flew a Spad and says it had the gliding angle of a brick.

Turnberry gave them a bout of hard work at the Gunnery School and a Serjeant-Major drilling a squad of W.A.A.C. had their sympathy. "It had taken him twenty years to acquire his drill vocabulary and now he couldn't use it."

At the School of Aerial Fighting at Ayr they met a lot of old friends and acquired a supreme contempt for the U.S. Army and all its ways. The Diarist writes : "We certainly have gotten a rotten deal from the U.S.A. and the British couldn't have treated their own Field Marshals any better. We owe the British a lot . . . ." They paid their debt apparently by introducing egg-nog to the British forces.

An incident at Ayr which caused them the most intense astonishment was the refusal of a Scottish dentist to accept payment of a bill incurred by a pilot who had since been killed. It was probably more a case of superstition than generosity but they were very impressed.

Later on in the book he says :—"The British will do more for us than they will for their own troops. Every Club in England that is open to English soldiers is open to Americans. We have every privilege that is offered to their own troops . . . . We even draw what we want from their quartermasters. Yet when the American Commissary was opened up in London, the first rule they made known was that no one could buy anything who wastn't in American uniform. To me it hardly seems fair not to say discourteous. I went down to get some canned stuff the other day but I couldn't get near the counter because the place was so full of the Y.M.C.A. . . . As for me, I'm for the British, and I don't care who knows it. Irish papers please copy."

There is a singular absence of personal conceit about the Author of this book. He never says one word to indicate that he was a good pilot and yet he and two of his pals were selected by Major Bishop, V.C., D.S.O., M.C., from the pilots' pool at Ayr to join the Squadron he was taking overseas On the other hand if he drank half as much as he said he did he would have ended up in a home for inebriates instead of in a crack Squadron in France. The fact is that he was just a schoolboy and a very gallant schoolboy at that.

A number of more or less well-known people drift through the story and are despatched by the author with either curt criticism or generous praise according to their deserts.

Discussing Major McCudden and others he said :—"I think there are only five airmen living that have the V.C. The first thing you have to do to get it is to get killed . . . . well I'm not jealous. I'm going to be hot myself some day. I'm either coming out of the war a big man or in a wooden kimono." The book is thickly sprinkled here with the names of his friends who have been killed in crashes.

The Squadron went down to Hounslow to get ready for overseas. Apparently they were equipped with S.E.5as because he expresses his approval of the 180 Viper Hispanos. Down at Brooklands where he went to collect his Service machine he saw the Snipe, the Snark, the Salamander, the Hippo and the Bulldog, all of which were going through the experimental stages at that time. He was delighted with his new machine and wrote :—"It flies hands off; I put it level just off the ground and it did 130. Then I went up high and did a spinning tail slide. Nothing broke so I have perfect confidence in it. I've been cleaning and oiling the machine-guns, tuning up the motor and testing the rigging. The best part of it is that "it's mine—no one else has ever flown it and no one else ever will." The spirit of the R.F.C. was infectious.

At Hounslow they were invited to tea with Mrs. Bishop and met "a lady who proved to be very nice and very much interested in America and the Americans." They offered to drive her back to town, but she said she would rather take a 'bus and get the air and it would take her right by the Palace. It was not until she had gone that they realised that she was Princess Marie Louise.

One or two of the song classics of the War are quoted and the revised version of an original one by Springs.

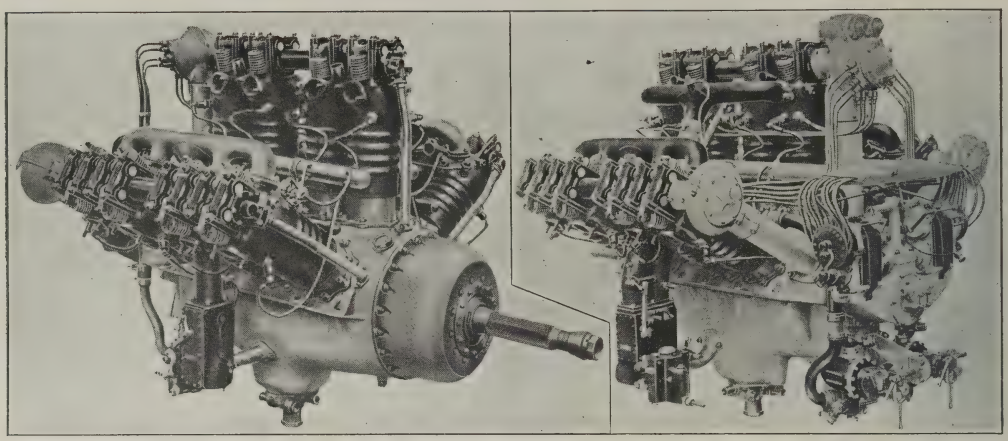
On May 25 the Squadron left for France where they joined No. 88 and No. 211 Squadrons at Petit Synthe two miles south of Dunkirk. This second half of the book is even better than the first. Maurice Baring might have written it instead of *R.F.C. H.Q.* if he had been born twenty years later on the other side of the Atlantic. The Three Americans became part of the R.F.C. and thenceforth looked down with pity and contempt on the American Squadrons. Springs, whose adventures would make a book in themselves and who eventually won the D.F.C. after an appalling crash, was promoted to Flight Commander and posted to a new American Squadron. Springs was still in hospital when he heard the news and "told the Adjutant to give the job to someone else quick." However he had to go.

In some of their leisure moments they decided to form a new society, "The Society for the Extermination of Amateur Aerial Authors," to protect the public "from a flood of bunk." A beautiful idea which might be revived to-day with advantage.

Towards the end of the book the Author strikes unconsciously the note of tragedy. Anyone who has had the privilege of reading the unofficial log of a pilot in the R.F.C. will remember how the incessant fighting, the lack of sleep and the growing casualty list are played on ragged nerves. This is the sort of thing that hundreds must have felt and a few written down :—"I've lost over a hundred friends so they tell me—I've only seen seven or eight killed—but to me they aren't dead yet. I dream about them at night when I do sleep a little and sometimes I dream that someone is killed who really isn't. Then I don't know who is and who isn't." Later on he wrote :—"War is a horrible thing, a grotesque comedy. And it is so useless. All we do when we win is to substitute one sort of Dictator for another. In the meantime we have destroyed our best resources . . . .After we've won this war by drowning the Hun in our own blood . . . ." But he never lost heart, the one thing he feared. "I only hope I can stick it out and not turn yellow. I've heard of men landing in Germany when they didn't have to. They'd be better off dead because they've got to live with themselves the rest of their lives. I wouldn't mind being shot down. I've got no taste for glory and I'm no more good; but I've got to keep on until I can quit honourably. All I'm fighting for now is my own self-respect."

He was shot down by a German aeroplane twenty miles behind the German lines.—C. M. MCA.

THE LORRAINE-DIETRICH AERO-ENGINES.



THE 12-CYLINDER LORRAINE-DIETRICH "W" MOTOR.—The 450 H.P. Type which has set up so many records.

The Lorraine-Dietrich firm whose full and correct title is *La Société Lorraine des Anciens Establissements de Diétrich et Cie de Luneville,* is internationally famous as one of the earliest and one of the most successful of the engineering firms of the World. It was found some 250 years ago, early in the reign of Louis XIV, by M. de Dietrich, and was fostered by the great Colbert. In 1870 after the annexation of Alsace-Lorraine by Germany, the works were transferred to Luneville, in French territory. The present directorate includes direct descendants of the original directors. And in the workshops are descendants of the men who made de Dietrich products in the 17th Century. So the firm may be regarded as worthy of respect.

In 1897 the first Lorraine-Dietrich car was built. The firm's long experience of the design and construction of car engines naturally led to their constructing aircraft engines in which industry they now hold a very prominent position.

So far as memory serves they did not produce any aircraft engines before the outbreak of War in 1914 except possibly on an experimental scale, but they certainly began to produce such engines very early during the war.

At the time of the Armistice the Lorraine-Dietrich Works were producing a twelve-cylinder Vee-type water-cooled engine of 380 h.p. which had established a very high reputation for reliability and economy in the Air Services of the Allied Powers, and from this end-of-the-war product their present famous models have been evolved.

The Lorraine aero-engines now in regular production are of three models. These are the 400 h.p. 12-cylinder Vee engine, the 450 h.p. 12-cylinder "W," or "Broad Arrow" type, and the 650 h.p. 18-cylinder "W" engine.

All these three types have cylinders of the same bore (120 m/m.) and are of very similiar detail design and construction. The 12-cylinder V-type engine has a stroke of 170 m/m. instead of 180 m/m. for the "W" types, and necessarily differs from the three-row engines in the form of the crankcase, arrangement of gear drives and so forth. But there are far more details which are similar to those of the three-row engines than there are points of divergence, and it is therefore convenient to take the 450 h.p. "W" engine as representative of all three and to describe that in detail indicating thereafter where points of difference occur in the other types.

The 450 H.P. "W" Engine.

Crankcase.—This is in two parts, upper and lower, both cast from aluminium alloy. The upper half has three faced surfaces supporting the three rows of cylinders and carries the upper halves of the three main crankshaft journals. It is also provided at each side with a ledge to rest on the engine bearers.

The lower half of the crankcase contains the other halves of the crankshaft bearings, the oil pumps and their filters.

To one end of the assembled crankcase there is bolted a nose casting which carries a double-acting ball-thurst race. At the other end are carried the valve, pump, and magneto drive gears.

Cylinders.—Each cylinder is machined from a solid billet of steel with the cylinder head and valve-seats integral with the sleeve. The valve ports and valve-guides are separate and screwed into bosses machined in the cylinder head.

The exterior of the sleeves are provided with a number of circumferential stiffening rings. Pairs of sleeves are assembled together and each pair is surrounded by a common sheet-steel water jacket welded in place.

Two of these twin cylinder blocks make up each of the three rows of cylinders. The cylinder blocks are secured to the crankcase by a stout flange and a series of studs. Two valves with their axes slightly inclined to the axis of the cylinder are fitted in each cylinder head.

Pistons.—These are of aluminium alloy, flat topped and fitted with four piston rings above the gudgeon-pin and one scraper ring below. The gudgeon-pins, which are locked to the connecting rods, float in the piston. The gudgeon-pin bosses in the piston have a considerably longer bearing surface on the upper than the lower side, and the support given the pins by the small end of the connecting rod differs in the reverse sense. As a result, the gudgeon-pin is subject to very little bending as a result of explosion loads.

Crankshaft.—This is of the usual four-throw type, of very substantial proportions. The arrangement of the cylinders in blocks of two placed very closely together leads naturally to a very close spacing of the corresponding pairs of crank throws and the provision of one large journal bearing between these pairs. The front end of the shaft is provided with a long tapered nose for the reception of the airscrew hub.

At the after end it is fitted with serrations to drive a bevel wheel which in turn drives the camshaft and pump drives, and dogs which drive an extension shaft from which is taken the drive for two magnetos.

Connecting rods.—These are of the articulated type. The master-rod, which serves the pistons of the central bank of cylinders is of H section and carries a split big-end of the usual white-metal-lined type. The two auxiliary rods are of tubular section, jointed to the master-rod by steel pins passing through eyes on the upper half of the big-end. The bushes of the auxiliary rods are of bronze.

The little-ends of all the connecting rods are split at their upper ends and are clamped and keyed to the gudgeon-pins. As already mentioned the bearing of the little-end on the pin is wider on the under side than on top.

Valve gear.—One camshaft is carried from the heads of each of the three rows of cylinders, and the valves are operated therefrom through the usual type of rocker arm. The camshafts themselves are hollow, of very stout cross section, supported in four very stiff bearings, one between the two cams for each cylinder.

The valves are each provided with double concentric springs and the spring-retaining washer is splined to the valve stem and held in place by a hardened steel head which screws onto the stem. This hardened head-piece and not the stem itself comes into contact with the adjustable tappet-screw in each rocker arm.

Each camshaft is driven through bevel gears from a shaft arranged in the plane of its own cylinder-line at the end of the engine furthest from the airscrew. The three intermediate drive shafts are in their turn driven by bevel wheels at their lower ends which mesh with a bevel wheel running on the splines, already mentioned, on the rear end of the crankshaft.

Auxiliary drives.—Below the crankshaft, and meshing with the previously mentioned bevel wheel on the crankshaft is another bevel wheel coupled to a vertical shaft which drives directly the centrifugal water pump. This pump is carried in a detachable casing bolted to the lower half of the crankcase.

Just above the water pump this vertical shaft carries yet another bevel pinion and this drives two horizontal shafts. One runs forward to the centre-line of the engine and there drives the triple oil-pump unit. The second of these shafts runs out to the extreme after end of the engine where it drives by worm gears two A.M. type petrol pumps which are normally used on nearly all French aircraft engines.

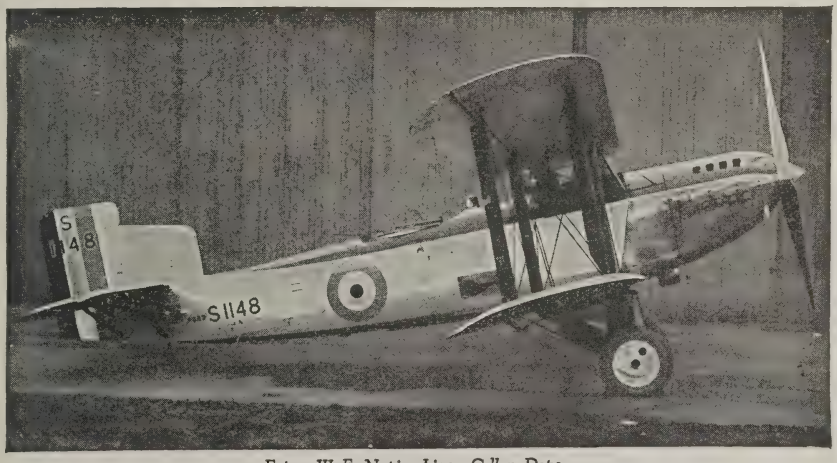
The extreme tail of the crankshaft drives through dogs a short extension shaft carried in ball races in a casing bolted to the crankcase which serves also as a base for the two magnetos. A cross shaft lying above the crankshaft is driven by skew gears from the end of this extension shaft, and to each end of the cross shaft a magneto is coupled through a "Simms" buffer coupling.

The case containing the final camshaft gear on the central row of cylinders is fitted normally with an attachment for a revolution counter, and with a synchronising gear for controlling two machine-



Armstrong-Whitworth "Argosy" (Siddeley Jaguar Engines) Cellon Dope.

It is significant that for the "Silver Wing" London-Paris Service the most luxurious Air Service in the world, **Imperial Airways, Ltd.,** *use Cellon Dope.*



Fairey III F. Napier Lion—Cellon Dope

It is a noteworthy fact that the Fairey Aviation Company chose Cellon Dope for use on the R.A.F. Aircraft which completed the 1927 Cairo-Cape-Cairo Flight

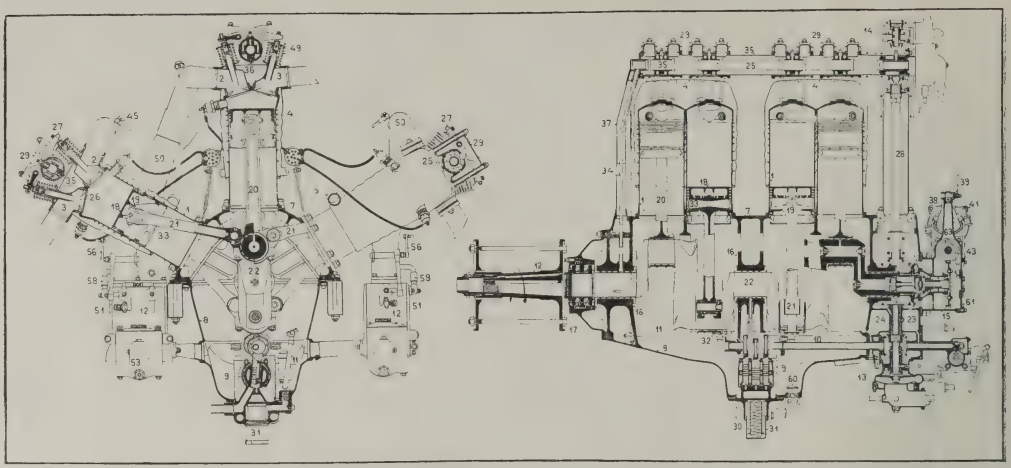
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C 35-39



SECTIONAL GENERAL ARRANGEMENT DRAWING OF THE LORRAINE 450 H.P. TWELVE CLYINDER "W" TYPE ENGINE.—References: (1) Cylinders. (2) Induction pipe. (3) Exhaust pipe. (4) Water jacket. (5) Water outlet from jacket. (7) Upper half crankcase. (8) Lower half crankcase. (9) Oil pump. (10) Oil pump driving shaft. (11) Oil pump delivery pipe. (12) Airscrew hub. (13) Water pump. (14) Gun synchronizer pinion. (15) Magneto bracket.

(16) Crankshaft journal bearings. (17) Double thrust race. (18) Piston. (19) Locking bolt for gudgeon-pin. (20) Master connecting rod. (21) Auxiliary connecting rod. (22) Crankshaft. (23) Bevel pinion for valve and auxiliary gear drives. (24) Pump drive gear and vertical shaft. (25) Camshaft. (26) Exhaust valve. (27) Rocker arm and tappet. (28) Camshaft intermediate drive shaft. (29) Rocker arm cover. (30) Oil filter. (31) Oil filter cover. (32) Oil pipe to crankshaft journal bearing.

(33) Gudgeon-pin. (34) Oil pipe to camshaft. (35) Camshaft bearing. (36) Camshaft casing. (37) Camshaft oil return to crankcase. (38) Magneto advance control shaft. (39) Advance control lever. (41) Magneto. (43) Magneto drive shaft. (45) Union for petrol injection with induction manifold. (49) Valve spring. (50) Induction pipe. (51) Throttle lever. (53) Petrol union on carburettor. (58) Carburettor water connection. (60) Drain plug for crankcase. (61) Mangeto drive pinion. (63) Helical pinion of magneto drive.

guns. A distributor for a gas-starting system may also be fitted in the same position.

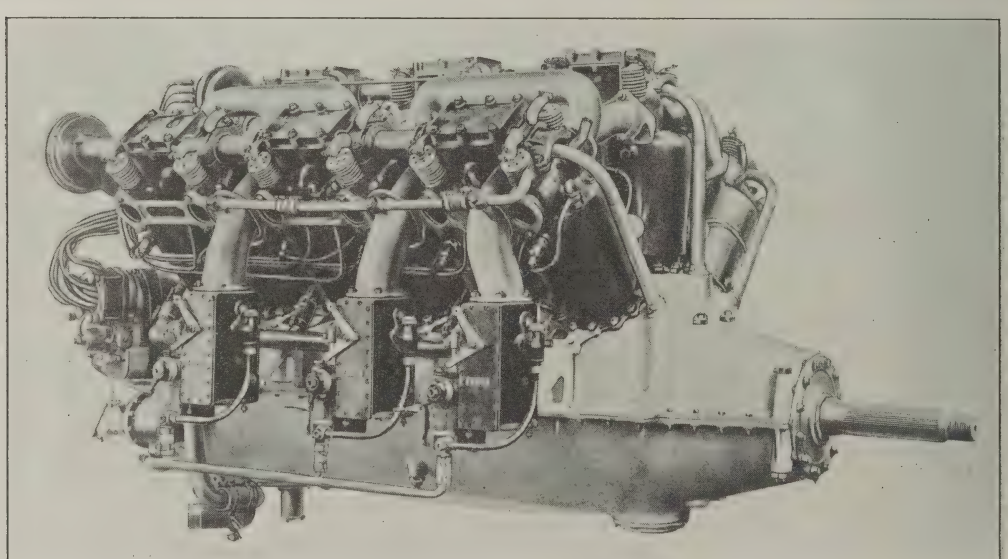
Lubricating system.—Lubrication is on the usual pressure-fed dry-sump system. Oil from the pump unit passes directly to the three journal bearing of the crankshaft, and passes thence through the hollow crankshaft to the big ends.

A lead is taken from the front crankshaft journal up to each of the camshafts and oil passes thence through the hollow camshaft to the various bearings, and finally returns to the crankcase, partly by way of the casings enclosing the camshaft drive and gears, and partly through a casing surrounding the oil supply pipe at the front of the engine.

The oil pump unit consists of a set of three oscillating plunger pumps driven by eccentrics. These pumps have no valves and are of exceedingly simple and robust design. The central one of the three pumps is of considerably larger bore than the other two, and serves as a scavenger, returning oil from the crankcase to the external oil tank. The other two draw oil from the tank and force it to the bearings. An air-pressure vessel is placed in the pump delivery circuit and serves to damp out the oscillations of oil pressure which result from the use of plunger pumps.

Built into the framework of the pump unit and projecting down outside of the crankcase is an oil filter of generous proportions which can easily be opened and cleaned. There is also provided an externally accessible pressure-relief valve.

For the benefit of designers who have to use this engine the information may be added that the oil tank for this engine should be internally divided, and contain a compartment of 5 or 6 litres (say



THE 18-CYLINDER LORRAINE-DIETRICH "W" MOTOR.—The new 650 H.P. Type.

1½ gallons) capacity into which the scavenger pump discharges at the top and from which the pressure pumps draw at the bottom. This compartment should communicate with the main tank only through four or five ½-inch diameter holes for oil at the bottom and by two or three ¼-inch air-vent holes at the top.

This secures that only the relatively small volume of oil in the compartment shall be put into circulation when the engine is started up, and in consequence only a small volume has to be warmed up to working temperature at the start.

Induction System.—The engine is supplied with mixture by two Zenith carburettors of the latest aircraft type. One is of the duplex type with two sets of choke-tubes and jets fed from a common float-chamber. This is mounted on the port side (assuming the engine to be used as a tractor) and feeds the port and central cylinder banks. A similar carburettor of single type feeds the starboard bank.

These carburettors are carried by brackets from the lower half of the crankcase practically amidships and the induction pipes pass between the two pairs of twin cylinders of each outer row.

They are of the triple diffuser type, are fitted with water-jacketed choke-chambers, and have an altitude control of the type depending upon a by-pass controlling the air depression in the choke above the main jet.

General.—The general arrangement and many of the details of this engine are very well shown by the sectional side and end elevations which are reproduced. The standard engine of this type has a compression ratio of 5.5 and develops 450 h.p. at 1,850 r.p.m.

A high-compression engine with a 6 to 1 ratio is also supplied for use on aircraft operating at high altitudes.

In addition there is the "*type accelere*" with a compression ratio of 6.5, rated at 480 h.p. at 2,000 r.p.m. and with a maximum output of 510 h.p. at this speed.

The 400 h.p. 12-Cylinder Vee-type.

As has already been mentioned this engine has the majority of its details almost identical with those of the "W" engine. The essential differences are the arrangement of cylinders in two rows, each composed of three pairs of twin-cylinder blocks, the correspondingly lengthened crankcase, and the use of a six-throw crankshaft, carried in four main journal bearings.

The connecting rods are of the forked and plain type. Both rods are of tubular section. The plain rod carries the big end proper and the forked rod end runs on the outside of the plain rod big ends on white-metal-lined bronze bushes.

The details of the valve gear, the various auxiliary drives, and the oil pumps are practically identical with those of the "W" engine, and apparently the majority of the components are interchangeable in the two cases.

This engine may be fitted either with twin magneto ignition, arranged as in the 450 h.p. engine, or with a front-end drive for the magnetos. In this latter case a skew pinion is mounted on the crankshaft just behind the ball-thrust race and drives a cross shaft carried just above the crankshaft in the front cover of the crankcase.

Alternatively it may be fitted with a Delco-Remy coil ignition system which takes the place of the normal (rear) magnetos. This engine is rated at 400 h.p. at 1,700 r.p.m.

The 650 h.p. 18-Cylinder Type.

This engine uses cylinders of a size and construction identical with those of the 450 h.p. type, arranged in three rows each of three pairs of twin cylinders. The angle between cylinder banks is 40° instead of 60° in the smaller type.

No such complete information as to details of construction have been supplied for this engine as are available in the other two cases, but it is obvious that apart from the inevitable differences caused by the increased number of cylinders the same scheme of detail design has been followed.

This engine with a compression ratio of 6 to 1 is rated at 650 h.p. at 1,850 r.pm..

All these Lorraine engines may be fitted with an epicyclic reduction gear of very compact form, giving a crankshaft to airscrew reduction of approximately 1.5 to 1.

Specifications of the Lorraine Water-cooled Aero Engines.

	400 H.P.	450 H.P.	650 H.P.
Type	12 Cylinder 60° Vee	12 Cylinder 60° Broad Arrow.	18 Cylinder 40° Broad Arrow.
Bore	120 m/m.	120 m/m	120 m/m.
Stroke	170 m/m.	180 m/m.	180 m m.
Compression Ratio	5.5	5.5	6
Normal Rating ...	400 H.P., 1,700 r p m	450 H.P., 1,850 r.p.m.	650 H.P., 1,850 r.p m
Maximum Output	428 H.P , 1,740 r.p m	470 H.P. 1,880 r.p.m.	700 H.P., 1,900 r.p.m
Fuel Consumption	.23 kg. (.49 lbs) per H.P. hour	.23 kg (.49 lbs.) per H.P. hour.	.23 kg. (49 lbs.) per H P hour
Oil Consumption	014 kg. (.03 lbs) per H.P. hour.	.014 kg. (.03 lbs.) per H.P. hour.	014 kg. (.33 lbs.) per H.P. hour.
Weight Dry, Complete	410 kg. (905 lbs.)	391 kg. (860 lbs.)	580 kg. (1,278 lbs.)
Weight per H.P.	1.025 kg. (2.25 lbs.)	0.87 kg. (1 91 lbs)	0.89 kg. (1.98 lbs.)
Overall Length ...	1.603 m. (5 ft. 3 in.)	1.374 m. (4 ft. 6 in.)	2.012 m. (6 ft. 8 in.)
Overall Width ...	0.79 m. (2 ft. 7⅛ in.)	1.210 m. (4ft. 0 in.)	0.919 m. (3 ft. 1 in.)
Overall Height ...	1.029 m. (3 ft. 4 in.)	1.138 m. (3 ft. 8 in.)	1.020 m. (3 ft. 4 in.)

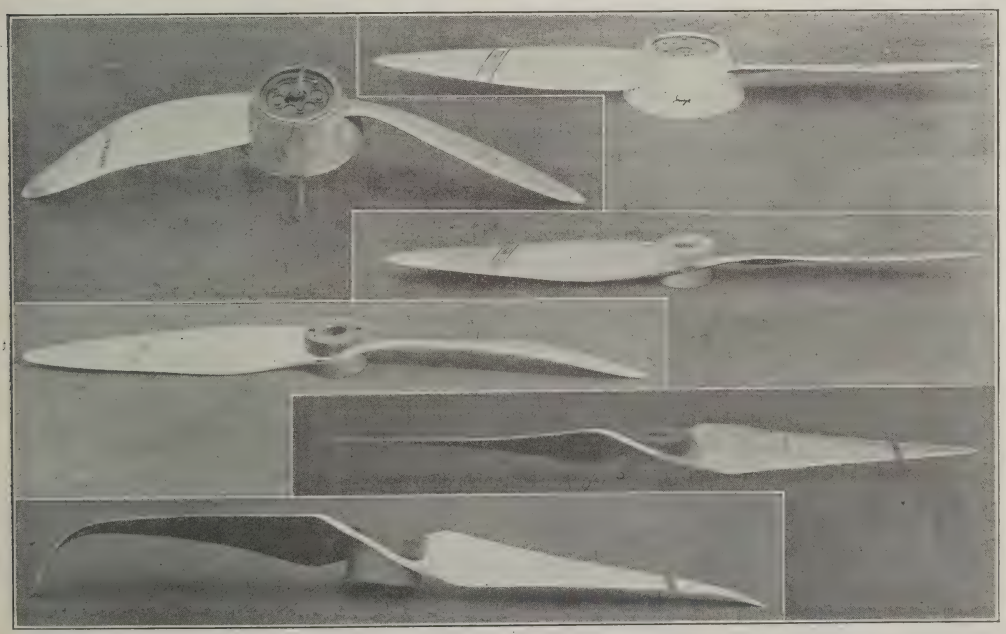
AEROPLANE PHOTOGRAPHS.

Copies of The Aeroplane photographs may be obtained from the Editorial Office of The Aeroplane, 175, Piccadilly, W.1, 6 in. by 8 in., at 2s. 6d. each, post free.

WITH REFERENCE TO WHEELS.

The Palmer Tyre Ltd. have recently issued a new chart of Palmer aeroplane wheels and tyres which should be in the possession of all aircraft firms. It gives the sizes of tyres, with the dimensions of the hubs which are used in conjunction with tyres of those sizes

The chart is on a stout cellulose mount which does not get dirty or broken like an ordinary cardboard mount. Copies may be had from the Palmer Tyre Ltd., 100-106, Cannon Street, E.C.4, on mentioning The Aeroplane.



SERVICE.—A selection of Fairey-Reed Airscrews showing them before and after treatment by the Service Department of the Fairey Co. This demonstrates how a Fairey-Reed airscrew is cheaper in the end than a wooden screw, because it can be bent straight after a mishap in which a wooden screw is completely ruined.



A GERMAN LIGHT AEROPLANE.—The Klemm-Daimler, with 2-cylinder horizontal Mercédés engine and geared-down airscrew. The pilot, Captain Loerzer, was one of the most famous war pilots, and commanded No. 2 Jagdstaffel, or Pursuit Squadron, which was the complement to, and rival of, the famous von Richthofen Circus. Captain Loerzer is officially credited with 45 aerial victories.— *("Aeroplane" photograph.)*

A HINT FROM AMERICA.

The Ryan monoplane which Capt. Lindbergh flew from New York to Paris is naturally a special machine, but it is a machine which closely resembles the standard Ryan M.1 commercial aeroplane, and it is possibly as true to say that it represents a standard American transport type of aeroplane as it is true to say that Flight Lieut. Carr's Horsley represented a standard R.A.F. bomber.

All those who keep themselves informed on American air matters will have noticed that in the United States there have been produced during the past year or two quite a number of commercial aeroplanes fitted with the 220 h.p. Wright Whirlwind which carry a normal pay load of round about 1,000 lbs. and are said to have a remarkably good all round performance.

The recent performance of the Bellanca monoplane in raising the World's duration record to 51 hours, and now that of Capt. Lindbergh's Ryan in taking off with 220 h.p., carrying a load not far from half that carried by Flight Lieut. Carr's Horsley, and in covering 3,500 miles in under 34 hours tends to confirm the claims generally made for this class of American aeroplane, and suggests that America in the development of this particular type and size of aircraft is distinctly ahead of the rest of the World.

That there is a useful field in the World for the four passenger or 1,000 lb. of cargo machine is fairly well proven by the success in Australia and elsewhere of the D.H.50. And the performance of recent American machines of this class suggests that British manufacturers looking for Colonial markets might do well to consider producing a machine of this size.

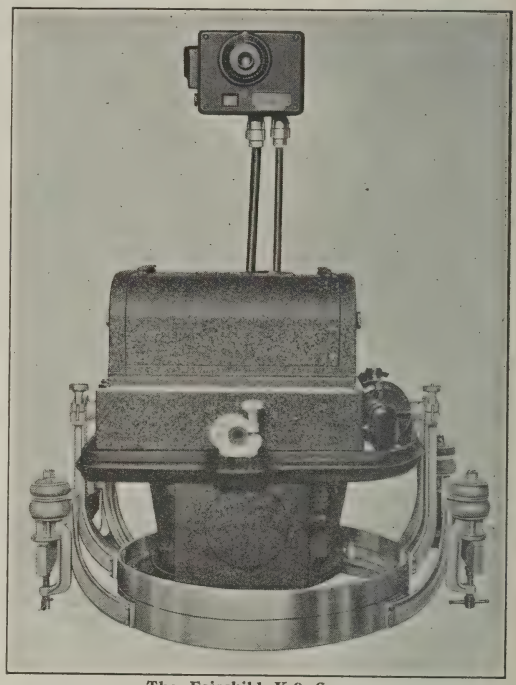
THE FAIRCHILD AERIAL CAMERA TYPE K8.

The photograph here reproduced shows the type K8 aerial camera made by the Fairchild Aerial Camera Corporation, of 270, West 38 Street, New York. The K8 camera is the standard camera of the U.S. Army and Navy Air Corps, and of the Department of National Defence, Canada, and it has been used in practically all of the Aerial Survey carried out in Canada, both by the Royal Canadian Air Force and by private concerns.

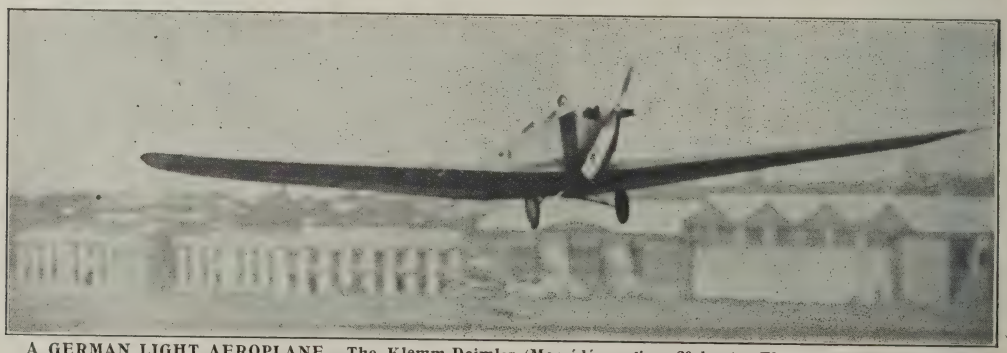
The camera is fully automatic, and uses roll films. As shown in the picture, it is mounted on a gimbal frame whose axes pass through the C.G. of the camera, and it is insulated from the frame of the aeroplane on rubber buffers.

The camera contains what is known as a "recording cone" in which are mounted an altimeter, a watch, a level, an exposure counter, and a slip of card upon which may be recorded the date and any other information which may be desired. Readings of all these instruments are automatically photographed on each exposure of the film.

Each film magazine contains films for 115 exposures 7 in. by 9 in.



The Fairchild K.8 Camera.



A GERMAN LIGHT AEROPLANE.—The Klemm-Daimler (Mercédés engine, 20 h.p.). The machine is amazingly manœuvrable, owing to having pivotting wing-tips in addition to ailerons. It gets off well with a very short run, and alights almost at a standstill. It has been performing at Croydon and Stag Lane.— *("Aeroplane" photograph.)*



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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]
Report for week ending July 2.

Flying Time 18 hr. 55 min. Flying was suspended on Friday and Saturday owing to the R.A.F. Display rehearsals. *Instructors.*—Messrs. F. G. M. Sparks and S. L. F. St. Barbe. *Instruction.*—A. B. Ferguson, H. J. Greenland, H. N. Marlow, L. Martin, C. H. Swan, G. Clemetson, F. C. Fisher, E. A. Lingard, L. Rowson, L. G. Sykes, Miss Fletcher, W. L. O'Connor, J. R. De Havilland, A. L. Richardson, Col. O'Meara, Miss O'Brien, A. S. Mulder, Miss Spooner, J. H. Veasey, R. Drysdale Smith, H. M. Samuelson, Dr. Cooper. *Solos.*—Sq. Ldr. M. E. A. Wright, Maj. K. M. Beaumont, G. H. Craig, A. R. Ogston, W. Hay, C. H. Swan, N. Jones, J. C. Horton, K. V. Wright, L. M. S. Veal, M. L. Bramson, A. F. Wallace. *Passengers.*—Mrs. Wood Humphrey, S. O. Bradshaw, Miss Honan.

A German Light Aeroplane at Stag Lane.—On Sunday, at the invitation of the London Aeroplane Club, the Klemm-Daimler light aeroplane visited Stag Lane, from Croydon, and the Pilot, Hauptmann Loerzer (who was one of the most famous of war pilots, being credited officially with 45 air victories), gave a most interesting demonstration of the capabilities of this machine.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]
Report for week ending July 2.

Flyng Time 20 hr. 10 min., made up as follows:—*With Mr. Brown*—Messrs. Caldecott 2 hr., Allett and Shiers 55 min. each, Tweedale, Torres and Watson 35 min. each, Rowley and Riley 30 min. each, Ruddy 25 min., Harber, Pettrieoux, Linaker and Miss Baerlein 20 min. each, Mr. Hartley 10 min. *With Mr. Cantrill*—Messrs. Nelson 2 hr., Harber 1 hr. 5 min., Rowley 50 min., Anderson 25 min., Pettrieoux, Goodyear and Ruddy 20 min. each. *Solos.*—Michelson 1 hr. 15 min., Costa 1 hr. 10 min., Twemlow and Ward 1 hr. each, Hardy 25 min., Lacayo 20 min., Chapman 10 min. *Joy-ride with Mr. Brown.*—Mr. Downshaw 20 min. *Tests.*—40 min.

"Manners—none, customs—beastly," is the best description of the weather, except on Saturday, when it seems to have been fine everywhere except at Hendon.

All the eclipse flights passed off successfully. C-EBIV gave trouble with a sticking rocker arm on the way back from Southport, but Mr. Brown managed to coax her back to Woodford on 3 cylinders.

G-EBMQ is back in service after her overhaul, looking very smart with a new coat of paint.

Arrangements for the Pageant on July 16 are well in hand and with the kind co-operation of No. 5 F.T.S. of the Royal Air Force it is anticipated that there will not be a dull moment for the thousands who will be gathering to watch the progress of the Air League Challenge Cup Race. The new club-house extensions will be formally opened by our President, Col. Sir Charles Wakefield, Bart., and the opening ceremony will be followed by a luncheon at which both Sir Charles Wakefield and Sir Sefton Brancker will be present.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]
Report for week ending July 3.

Flying Time 37 hr. 15 min.—"LX" 25 hr. 30 min., "QV" 8 hr. 25 min., "PO" (Avro) 3 hr. 30 min. *Dual.*—11 hr. 10 min. *"A" Pilots.*—13 hr. 5 min. *Solo (Training).*—8 hr. 45 min. *Passengers with Mr. Parkinson.*—40 min.

Instruction with Mr. Parkinson.—Mrs. Heslop, Messrs. Jewett, Lawson, D. Wilson, Pargeter and Elmes. *Solo (Training).*—Mrs. Heslop, Messrs. Jewett, Bainbridge, D. Wilson, Elmes, Turnbull. *"A" Pilots.*—Miss Leathart, Dr. H. B. L. Dixon, Mr. Hannay with Capt. Laws, Mr. Heppell with Mr. R. N. Thompson, Mr. R. N. Thompson with Mrs. White, Mrs. Thompson, Mr. J. Bell and Mr. Bulmer, Mr. Baxter Ellis, Mr. C. Thompson with Mrs. Heslop, Mr. Luckman, Mr. H. Ellis with Mr. N. Easey, Mr. N. S. Todd with Mr. Miller and Mr. Dees, Mr. Mathews with Mr. Percy. *Passengers with Mr. Parkinson.*—Capt. Law and Mr. White.

Mrs. Heslop and Mr. Jewett both did their first solos on Tuesday and Mr. D. Wilson and Mr Elmes were launched on Thursday, all making very good landings, which appear to be the most important part of *first* solos.

With Mr. Irving as passenger Mr. Parkinson set out on Friday evening to fly to Stag Lane so as to visit the R.A.F. Pageant on Saturday, but they were compelled to leave the machine (QV) at Spittlegate, owing to bad weather. It had been an unpleasant journey all the way but got worse near Grantham. The return flight was made on Sunday.

Mr. Parkinson carried as passengers two representatives of *The Northern Echo* newspaper (a reporter and photographer) to the Richmond area on Wednesday, in the Club's three-seater Avro. An excellent report of the Eclipse and photographs, published in *The Northern Echo*, resulted.

The Yorkshire Aeroplane Club.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]
Report for week ending July 2.

Flying Time 23 hr. 25 min., consisting of 3 hr. 5 min. solo, 11 hr. 45 min. cross-country, 8 hr. dual instruction ,25 min. joy-ride, and 10 min. test.

Instruction.—Messrs. Coles, Brown, Wilson, Wall, Thomson, Brackenbury, Henry Leetham, Weaver, Crowther (A. and H.), R. K. Lax, Miss Wilson, and Capt. Milburn. *Solos.*—Messrs. Coles, Mann, Wood, Clapham, Carter, Norway, and Thomson: in addition Messrs. Fielden and Dawson undertook cross-country flights in connection with the Eclipse.

On Monday the Club was closed for the usual weekly holiday. On Tuesday and Wednesday Mr. Coles and Mr. Beck were up in London for their half-yearly Medical Board.

On Tuesday evening both our Moth NN and the Renault Avro left Sherburn for Catterick for their flight the next morning to view the Eclipse. Mr. Dawson took a passenger in the Moth, while Mr. Fielden took Dr. Routh of the Board of Education, who was highly delighted with his flight when he secured some excellent photographs of the Eclipse.

On Thursday no flying was possible until 4 p.m. because of the heavy rain.

On Friday and Saturday both the Moths went up to London to attend the Royal Air Force Display at Hendon. Mr. Beck flew "LS" with Capt. Milburn as passenger, and Mr. Fielden was in charge of "NN" with Mr. Brackenbury.

On Saturday afternoon Mr. Clapham took the Avro over to Post Hill, near Leeds, where he did some stunting. Our Ground Engineer, Mr. Beazer, also held the interest of the crowd by a daring display of wing-walking.—R. O. L.

The Midlaid Aero Club Ltd.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]
Report for week ending July 1.

Flying Time 12 hr. 4 min. *Instruction.*—J. Edwards, Capt. J. E. Brewin, R. D. Bednell, N. Crane, R. Cazalet, G. Aldridge, S. H. Smith. *Solos.*—G. V. Perry, E. J. Brighton, R. L. Jackson, C. Fellowes, W. Swann, J. F. C. Brinton, S. H. Smith.

A week of the choicest mid-summer rain and gales again restricted the hours flown. Preparations are well advanced for the Birmingham Air Pageant, which will undoubtedly be a record one so far as the Provinces are concerned.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]
Report for week ending July 3.

Total flying time 18 hr. 30 min. *Instruction* 8 hr. 20 min. *Solos* 7 hr. 50 min. *Joy-rides* 50 min. *Tests* 1 hr. 30 min.

Instruction.—T. F. Brewster 1 hr. 30 min., A. L. Fortlage 1 hr. 10 min., B. Whittle 45 min., F. A. Kerry 30 min., W. M. C. Wall 30 min., Cdr. A. W. Hunt 25 min., J. Dunnings 25 min., Capt. H. T. Molyneux 25 min., A. R. Mellor 25 min., J. Everett 25 min., E. T. Symmons 20 min., E. A. L. Parker 20 min., Miss M. M. Home 20 min., L. Taylor 20 min., W. P. Courtney 15 min., and the Hon. H. R. Grosvenor 15 min. *Solos.*—E. T. Symmons 5 hr., H. R. Grosvenor 50 min., Don J. de la Cierva 40 min., K. P. L. Bowen 30 min., V. F. Nicholson 15 min., E. I. C. Wyllie 10 min., L. A. W. Deane 10 min., Flt. Lt. Kimmins 10 min., and R. H. Cooper 5 min. *Joy-rides.*—Lady Stalbridge, Major Ross White, Mr. Davis and Mr. Bayne with Mr. Thomson, Mr. G. Green and Mr. Stanford with K. P. L. Bowen and Miss Pryce with E. I. C. Wyllie.

By special request Mr. Thomson flew over to Millbrook (with Major Ross White in the front seat) on Saturday on the occasion of Millbrook Regatta, and gave the spectators an exhibition of loops and half rolls. Meanwhile, Mr. E. T. Symmons arrived solo in our other Moth and cruised round above Mr. Thomson. We understand that the Millbrook Yacht Club were very pleased that we were able to

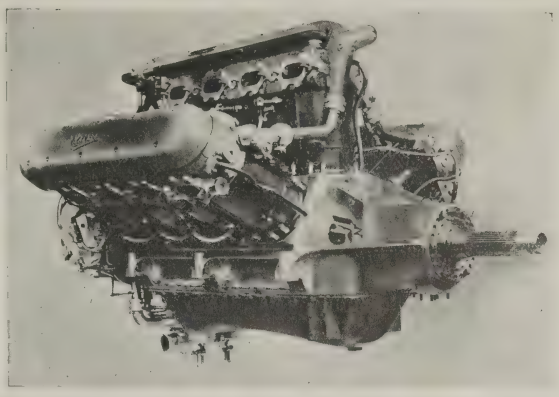


AT HAMBLE.—Some of the personages of the Hampshire Club. The Club's able instructor, Mr. G. I. Thomson, D.F.C., is seen in plus fours with a coat over his arm, and Mr. Roy Chadwick, the Avro designer, is in a bowler hat. The small child is his.

THE NAPIER LION ENGINES.

Had the War 1914-18 lasted longer than it actually did, one of the most important aero-engines of the War would actually have been the 450 h.p. Napier Lion. As the War came to an end, however, this engine was developed highly as a civil engine, as well as for the R.A.F.

It has been noticeable at the various R.A.F. Pageants and Displays that the Napier Lion has been more and more in evidence each year. In the eighth Display this year the Napier Lion has again been used in many of the Service machines and that it is still very much alive is seen from the fact that it is incorporated in the design of several new and experimental machines. Noticeable in this respect is the installation of the Napier Lion in the de Havilland Hound and the Fairey IIIF, both of which machines are faster than any of the Service single-seaters.



THE DIRECT-DRIVE LION :—A three-quarter view of the direct drive engine which develops 543 H.P., and weighs only 1.7 lbs. per H.P.

The characteristics of the Napier Lion are well known, but one may repeat here that it has twelve cylinders which are arranged in three blocks of four cylinders each, the angle between each two blocks being 60°. With this arrangement of twelve cylinders a shorter crankshaft can be used which gives not only greater strength and compactness, but also gives much greater reliability.

Normally the Lion is rated at 450 h.p. and the direct-drive model develops 543 h.p. with 2,350 r.p.m., at which speed its weight works out at 1.7 lbs. per h.p. When specially modified for racing purposes even a higher h.p. is attained and in the 1925 Schneider Trophy racers 700 h.p. was reached.

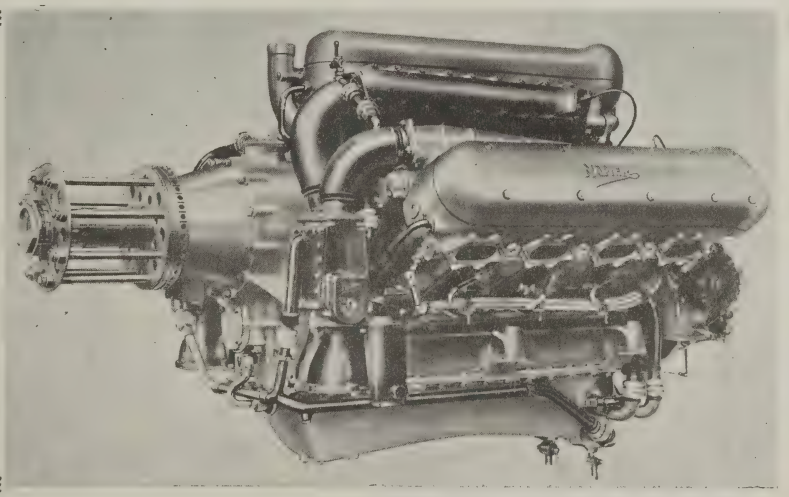
The Napier is again being incorporated in the Schneider Trophy racers built for this year and it is learned that the h.p. has been raised very considerably above 700.

In Service machines the Napier has accomplished several very notable flights. In 1926 four Fairey IIID machines with Napier engines flew from Cairo to Cape Town and back and thence to London, and again this year four Fairey IIIFs all with Napiers flew from Cairo to Cape Town and back. In no case was the slightest mechanical trouble experienced and the machines kept to the pre-arranged programme.

Abroad, the Napier is equally popular. It is used in Argentina, Chile, Holland, Japan, Spain, America and other countries.

For the past eight years it has been one of the mainstays of Civil Aviation and at no time since air line work to the Continent began have the representative air lines been without a number of air liners driven by Napier Lion engines.

THE 450 H.P. NAPIER LION :—A three-quarter side view of the standard geared Lion. This engine is in use in the R.A.F. in all types of landplanes and seaplanes. It is also used by Imperial Airways and by a number of foreign Governments.



co-operate with them in this manner, and we feel with them that all sporting organisations should endeavour to join hands on occasions such as this.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending July 3.

An informal opening meeting was held on June 27 at 6 p.m., and among those present were the following:—The Marchioness Townshend, the Marquess Townshend, the Lady Elizabeth Townshend, General Sir Richard Ruck, K.C.B., The Lord Mayor (Mr. C. R. Bignold), The Lady Mayoress (Mrs. C. R. Bignold), Capt. Pike, The Sheriff (Mr. A. A. Rice), The Sheriffine (Miss Rice), Mr. J. Hardy, Mr. R. J. Homer, Mr. and Mrs. J. D. North, Mr. H. O. Bennett (Hon. Sec.), Capt. and Mrs. Ramsay, Mr. and Mrs. J. Morse, Sq. Ldr. C. A. Rea, and Mr. H. N. Holmes.

One or two joy-rides were given but inclement weather marred the proceedings toward the end of an otherwise successful evening.

The Club has now started flying in earnest and it is hoped to get one or two ex-Service members solo in the course of a few days.

Flying hours 11 hr. 55 min. *Dual with Mr. Lines.*—Mr. H. Gough, Mr. C. White, Mr. A. Marshall, Mr. Whitlock, Mr. A. Rice, Mr. E. Scott, Mr. A. Potter, Mr. R. Moore, Mr. H. Mack, Mr. Harmer. *Joy-rides.*—Mrs. C. White, Mrs. Morse, Mrs. J. Morse, Mr. E. Scott, Mr. Gowing. *Solo.*—Sq. Ldr. C. A. Rea.

Owing to weather being unfit no flying took place on Saturday last.

A JOHANNESBURG "PAGEANT."

A flying display by officers of the South African Air Force, which was given on Saturday, June 4, at Baragwanath Aerodrome, near Johannesburg, in aid of the funds of the Johannesburg Light Plane Club, attracted a crowd of some 20,000 visitors, and, it is said, the longest procession of motor vehicles yet seen in South Africa.

The programme of events opened with a dummy parachute descent, followed by an exhibition of aerobatics given by Capt. C. W. Meredith, A.F.C., and Lt. R. R. Bentley, M.C., on S.E.5as. A mock fight between Lt. Bentley on a D.H.9 and Capt. J. Daniel in an S.E.5a culminated in the latter descending in a spin emitting clouds of dense smoke in the approved style.

Formation flying and aerial drill by two flights of five machines, one of S.E.5s and one of D.H.9s was carried out with marked precision and caused great enthusiasm on the part of the spectators. As a finale to this display, the two flights formed line ahead and proceeded to dive at and machine-gun a trench on the aerodrome.

What appears to have produced the greatest effect on the assembled multitude was the item described in the programme as a "Speed Demonstration" in which four machines in rapid succession dived down and, in the words of a local reporter, "hurtled screaming over the heads of the people."

The Pageant was directed by Capt. C. J. Venter, D.F.C., and altogether nineteen aeroplanes took part in the display, which was attended among others by Grp. Capt. Fellowes, R.A.F., who was in South Africa on behalf of the Air Ministry inspecting sites for airship stations in connection with the proposed Imperial Airship Service of the future.

The result of the Display is considered to have been extremely satisfactory. Financially the profits will go a long way to putting the Johannesburg Club "on its feet" and the great interest shown by the public is regarded as a healthy sign for the future of flying in the Union.

FLYING AT SHOREHAM.

Mr. F. G. Miles, of the Gnat Aero Co., of Shoreham, writes:—

"We have been joy-riding at Selsey during the last stormy days and are still doing so. Passengers want rather a lot of persuading to fly when the whole ground staff are holding the machines down through squalls, they mostly think that aeroplanes are such terribly flimsy things.

"One voluble visitor was heard pacifying a timid friend with the following allegory—the said friend having awaited her more venturesome companion's return from a trip in the blue in fear and trembling, meanwhile finding ominous auguries in whole hosts of natural phenomena, such as the sun disappearing behind a cloud as they took off. (This sentence seems to have got entirely out of control, I'l have another try.) As I *was* saying, this voluble and venturesome visitor explained to her friend.—'It's just like going to a doctor for a hoperation. You puts yerself in 'is 'ands, and if it's Gawd's will yer pulls through.'"

"G-EAJU is making good time. The pupil who piled TU likes this one lots better. He lectured us recently on all the various combinations of misfortunes which caused him, an entirely innocent and blameless party, to suppose that he could get over a fence and into a field, instead of flying over a field and into a fence, which he did. However, he is flying JU solo now very well, what time he is not explaining to nervous neophytes how very dangerous a thing is an aeroplane.

"By the way, the petrol pump is installed and we are entirely at the service of aerial visitors in the way of fuel and oil; also, our ground engineer, who holds A, B, and C licences for all types of aircraft, and/or seacraft, up to three engines, is at the disposal of any private owner who cares to avail himself of his assistance or advice. We can undertake the reconditioning of any type of machine.

"I hear that several clubs are having to turn pupils away owing to all the flying time being booked up. Well! It might possibly interest the said pupils to know that we are not in that fortunate position, but we have plenty of machines and pilots here for the members of the Southern Aero Club. We have the assistance of Flt. Lt. G. Birkett, lately of the R.A.F., in which he has had ten years as instructor on all types. He is keeping his hand in here. As you know the Club offers Avro 504K tuition at 5os. an hour.

"The more childish among us derived a great deal of innocent pleasure from the fact that the Air Ministry has mentioned Shoreham in their lovely new blue 'Notices to Airmen,' saying that civil aircraft on certain routes must pass over us in foggy weather. I do prefer the new summer shade of blue to the 'greenery-yallery' one it supersedes, don't you? P.S.—Since looking at the notice again I find that it refers to Shoreham in Kent, but can't be bothered to re-write."

THE BIRMINGHAM PAGEANT.

The Pageant which is to be held at Castle Bromwich, near Birmingham, on Saturday, July 16, is being run by a special Organising Committee formed for the purpose under civic auspices, in which the Lord Mayor of Birmingham, Alderman A. James, is taking a very large part.

The Midland Aero Club is playing its part in this effort, as it is looking after the details of the races which form part of the programme, but it wishes to emphasise the fact that the Pageant is more than a Club event.

In the race for the Air League Challenge Cup, which is to be the principal event of the day, the winner will receive a prize of £50 presented by Sir Charles Wakefield, in addition to securing for his Club the holding of the Cup proper. Second and third prizes of £35 and £15 are to be given by the Birmingham Air Pageant.

In addition to these prizes, as advertised last week, a silver cup presented by *The Manchester Evening News* and £50 presented by *The Manchester Guardian* will be awarded to the first pilot to reach Woodford Aerodrome.

As announced in THE AEROPLANE of last week there will be continuous flying from 10.00 hours onwards, including displays by officers of the R.A.F. and of the County of Warwick Squadron, A.A.F., and two short handicap races for substantial prizes which should attract many of the best civil pilots.

There seems every reason to expect that this will be a very fine display, and one which should do much to arouse interest in flying in the Midlands.

A CANADIAN ACCIDENT.

On June 9 there was a most regrettable accident at Lac la Pêche, when Mr. J. Dalzell McKey was drowned in making a landing with a Vickers Vedette. In September last year Mr. McKey, who was a well-to-do American business man, flew across the United States on a Douglas Cruiser, and then, in company with Sq. Ldr. Godfrey, R.C.A.F., flew from Montreal to Vancouver on the same machine with floats, making a dry hop over the Rockies of some 900 miles.

He had planned to fly from Ottawa to Alaska this month, and for this purpose he had placed petrol caches across the Continent, had reconditioned his Douglas Cruiser and had bought two Vickers Vedette machines, with Wright Whirlwind engines. The first machine was delivered on June 9, and after being tested by Sq. Ldr. Godfrey was flown to Lac la Pêche, Quebec, where Mr. McKey was waiting. Mr. Reed, of Canadian Vickers Ltd., the designer of the machine, was with Sq. Ldr. Godfrey.

On arrival at the lake, Sq. Ldr. Godfrey flew the machine back to Montreal accompanied by Mr. McKey and Lieut. Hoag, of the United States Army Air Service. Leaving Sq. Ldr. Godfrey and Mr. Reed in Montreal Mr. McKey flew back to Lac la Pêche, and before starting he was warned to be careful of glassy water in landing.

He had never before flown a boat, although an expert on float machines. He had never landed this particular machine before. He came into the lake on a long glide at about sixty miles an hour, and touched the water lightly.

Mr. Hoag, who was beside him, thought that they had made a perfect landing, when suddenly the machine seemed to arise in the air a few feet and came down in a dive, and broke entirely in two at the pilot's cockpit, tearing off a piece of the bottom, so that Mr. McKey and Mr. Hoag found themselves in the water.

Mr. Hoag was able to swim and came up at once. He got off his helmet and goggles and looked for Mr. McKey, continuing his search in vain until exhausted. Mr. McKey was found the next day on the bottom of the lake, in exactly the position he had occupied in holding the controls. There was no sign of any wound, and it is supposed that he was drowned.

The evidence all shows that the first landing was satisfactory, although the speed was a trifle high. Mr. McKey probably failed to hold the nose of the machine down, and when it porpoised it broke, throwing the two men into the water. It is much to be regretted that after all his preparations he was not able to carry out his flight, and every accident of this kind which is played up luridly by the newspapers is a blow to aviation in Canada.

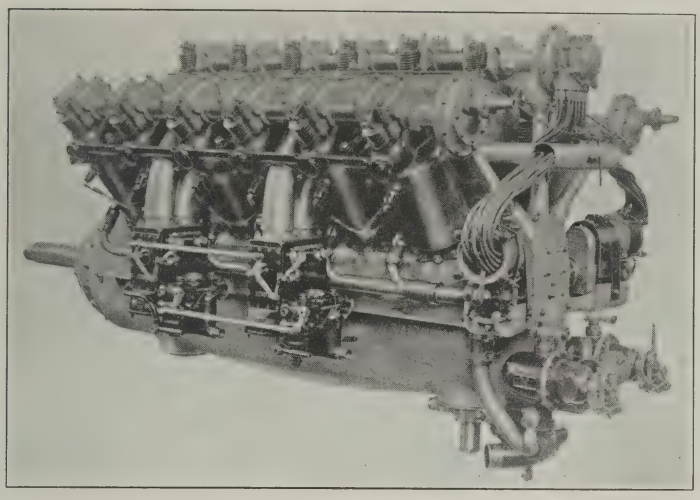
THE CANADIAN AIRSHIP BASE.

Montreal has been selected as the site of the Canadian terminal station of the projected Empire airship route across the Atlantic. The site of 600 acres, on which a mooring-mast will be erected, has been chosen and the purchase has been authorised.

DIVING TESTS.

For the purpose of discovering the cause of the recent collapse of a Fokker biplane in flight, Lieut. Bjarkow of the Danish Army, flying the same type of machine, carried out a series of tests by diving from a height of 10,000 feet at various speeds. He was finally forced to leave his machine by parachute, making a safe alighting from 1,200 feet after the wings had failed.

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Lorraine-Dietrich Engines are the most widely known and the most widely used in the world.

They enable thousands of Military and Civil Aircraft to carry on unnoticed their regular routine duties.

They have also made possible a large number of outstanding achievements known the world over.

1925.

Rome—Melbourne—Tokio—Rome. Colonel the Marchese de Pinedo. Savoia Flying Boat (450 h.p.). 54,000 kms. in 380 hours.

NewYork—Buenos Aires. MM. Duggan, Oliveiro, Campanelli. Savoia Flying Boat (450 h.p.).

1926.

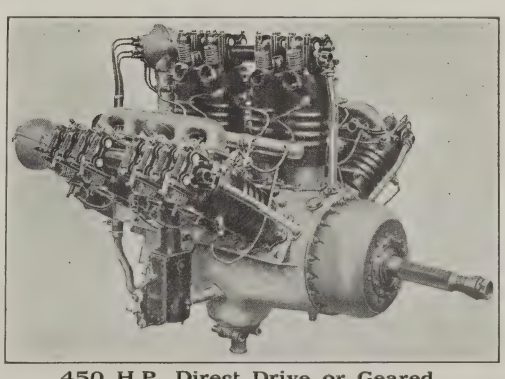
World's Height Record. M. Callizo, on a Bleriot Spad 61 (450 h.p.). 12,442 m.

Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris—Rome—Tunis—Casablanca—Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs. 45 mins.



450 H.P. Direct Drive or Geared.

1927.

Across Africa. Capt. de Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h p.). 2,565 kms. in 17 hrs. 30 mins.

SOCIÉTÉ LORRAINE-DIETRICH, Argenteuil (Seine et Oise), France.

COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 30; Tuesday, 25; Wednesday, 25, Thursday, 24; Friday, 24; Saturday, 29; Sunday, 11.

IMPERIAL AIRWAYS LTD.:

Paris—London; London—Brussels—Cologne: Machines 61, passengers 717, freight 23 tons.

AIR UNION:

Paris—London: Machines 46, passengers 157, freight 15 tons

K.L.M.:

Amsterdam—Rotterdam—London: Machines 24, passengers 121, freight 3 tons.

DEUTSCHE LUFTHANSA AG.:

Berlin—London: Machines 17, passengers 59.

SABENA:

Brussels—London: Machines 13, passengers 56.

PRIVATE:

Machines 7, passengers 10

Total number of trips by British Machines, 67, carrying 726 passengers. Foreign Machines, 101, carrying 404 passengers.

COMPARATIVE FIGURES.

Week ending July 3:
Machines, 168; Passengers, 1,130; Crews, 301; Total personnel, 1,431.
Corresponding week, 1926:
Machines, 160; Passengers, 1,113; Crews, 218; Total personnel, 1,331.
Corresponding week, 1925:
Machines, 162; Passengers, 724; Crews, 208; Total personnel, 932.
Corresponding week, 1924:
Machines, 160; Passengers, 632; Crews, 197; Total personnel, 829.
Corresponding week, 1923:
Machines, 120; Passengers, 571; Crews, 195; Total personnel, 766.
Corresponding week, 1922:
Machines, 104; Passengers, 296; Crews, 156; Total personnel, 452
Corresponding week, 1921:
Machines, 102; Passengers, 331; Crews, 127; Total personnel, 458.
Corresponding week, 1920:
Machines, 90; Passengers, 138; Crews, 10; Total personnel, 248.

Croydon Notes.

Owing to the R.A.F. Pageant, Display, Jamboree or what you will, having prevented one from visiting Croydon during the week, nothing of an epoch making nature has been able to occur there. However, on one's daily advance on and retreat from the Metropolis along Purley Way one has been able to see that notwithstanding one's absence Civil Aviation, as viewed from over the fence, has progressed much as usual.

On Wednesday as one was progressing up the said Purley Way in pelting rain and with windscreen wiper working overtime, an Italian machine arrived, having been piloted from Rome by General Balbo, the Under-Secretary of State for Air in the Italian Government. It is not known yet whether Sir Philp Sassoon will return the compliment by piloting a machine to Rome, or perhaps he will fly a racer in the Schneider Trophy contest.

The Fokker F.VIII (two Jupiters) made a return trip between Rotterdam and London every day last week. Among her passengers were Mr. and Mrs. Frederick Koolhoven. Mr. Koolhoven is the celebrated Dutch designer whose best known work are the "big and little ack-Ws" (in other words, the Armstrong-Whitworth biplanes of 1915-16-17) and the Bat Bantam. He also designed the first specially built commercial aeroplane, the Bat FK.26, which did much good work between London and Paris on the Air Lines in 1920-21.

As a mere member of two vast crowds, i.e., the Lindbergh crowd at Croydon and the Pageant crowd at Hendon, one wonders many things.

At Croydon there is only one exit road and there was no traffic organisation. At Hendon there were several roads, much organisation and a traffic controller. And yet, speaking for oneself, one got away from Croydon in about 10 minutes, whereas it took one 2½ hours to leave Hendon. Though it was easy enough to get out of the aerodrome itself one could not move when one got out.

One took roughly 2 hours to do the first mile from Hendon and yet there was present a definite sense of speed. For in the car immediately on one's left was the Editor of THE AEROPLANE, and in the car on one's right was Major Segrave, of 207 m.p.h. fame, neither of whom have acquired a reputation for being slow moving when in motor-cars.—G. D.

A.D.C. AIR TRANSPORT.

A.D.C. Aircraft Ltd. have recently added to their already extensive activities the operation of an Air Transport Service so as to meet the growing demand for a service which can promptly and reliably undertake special journeys.

For this purpose they have put into commission a fleet of six D.H.9 aeroplanes, and have engaged Mr. T. Neville Stack, A.F.C., to supervise the operation of this service.

As the A.D.C. Aircraft Co.'s large and splendidly-equipped works are actually on the London Terminal Aerodrome, they have the best possible facilities for maintaining this transport fleet in first-class condition, and they propose to use these facilities to the fullest extent to secure the utmost possible reliability in operation.

This new service has already executed a number of important commissions, and can undertake to provide air transport for newspaper and other urgent business, for aerial photography, and other purposes, at short notice and on terms which are as low as is compatible with the high standard of efficiency which the firm is determined to maintain.

A point of some importance in connection with such an undertaking is that A.D.C. Aircraft Ltd. treat all orders given to them for air transportation as confidential—a feature which will necessarily appeal to some clients to whom the advertising value of the use of air transport has a strong appeal—for they need not share that advertisement with the operating concern unless they so desire.

AIR TAXIS LTD.

For the week ending June 26 Mr. Dickinson did aerial photography over the South-East Coast.

Mr. Hope on the D.H.50 toured the country with Lord Arlington and party. The next day he went to Portsmouth to collect photographs of the arrival of T.R.H. the Duke and Duchess of York.

For week ending July 3 Mr. Hope went to Chester on Wednesday and Mr. Dickinson to Preston, Southport and Giggleswick in connection with the Eclipse (of the sun not the Stakes of the same name).

On Thursday Mr. Hope on the D.H.50 went to Paris to get photographs of the arrival of the Trans-Atlantic Fokker. [Why worry?—ED.] Owing to the machine not having arrived he returned to London. He took off again next day at dawn and flew to Ver-Sur-Mer and landed in a field near the shore off which the Fokker had alighted. Having secured some photographs he returned to London.

Mr. Dickinson on the Moth did a photographic tour in the North of England.

MORE RECORDS FOR ITALY.

On Mar. 26 Lieut. Bacula, on a Cant. 21 flying-boat (500 h.p. Isotta-Fraschini engine) and Signor Passaleva on a Savoia 62 (500 h.p. Isotta-Fraschini engine), took off at Vigna del Valle, both carrying 1,000 kgs. useful load, with the intention of breaking the height record held by Herr Von Gronau.

Lieut. Bacula reached a height of 4,800 m. and Signor Passaleva 5,100 m., thereby both exceeding the existing record of 4,492 m.

The record thus passes to Signor Passaleva, who now holds nineteen World's Records, all made with Isotta-Fraschini engines.

FOR GOOD CAST IRON.

Comparatively little cast iron is used in modern aircraft, but people who are thinking of producing a cheap and efficient engine for light aeroplanes, at somewhere between £100 and £150, talk about using cast-iron cylinders. And those who are thinking in that direction will do well to remember that cylinder castings of the very best are made by Rubery Owen Foundries Ltd., of Willenhall.

The name of Rubery Owen is familiar to everybody in aviation, for the firm have specialised on pressed steel work and stamped steel work for aircraft ever since the very earliest days of flying. Recently the moving spirits of Rubery Owen and Company started in the foundry business with the slogan "Cylinders that won't come back—for customers that will."

They make a point of the fact that they are a new firm but unique in experience, in that the directors and staff include men of long connection with and intimate knowledge of the foundry trade specifically and the motor trade in general. Therefore anybody who is on the look-out for first-class cylinder work would do well to get in touch with the firm's London office at 68, Lincoln's Inn Fields, W.C.2.

PERSONAL NOTICES.

MARRIAGES.

NELSON—MAXWELL-HERON.—On July 2, at St. John's Wood, A. W. H. Nelson, R.A.F., only son of Maj. and Mrs. Nelson, of 1a, Castletown, W. Kensington, to Rita, only daughter of the late Staff Capt. B. C. M. Maxwell-Heron, M.I.O., and Mrs. Maxwell-Heron, of 1, St. Mark's Court, Abercorn Place.

TURNER—GARRATT.—On June 28, at Holywood, Co. Down, Flt. Lt. Edward Fisher Turner, A.F.C., R.A.F., youngest son of Mr. and Mrs. Alweyne Turner, to Margaret Elizabeth, daughter of Mr. and Mrs. Richard Garratt, of Holywood.

BIRTHS.

GILBERT.—At South Court Nursing Home, Broadstairs, on July 1, the wife of Flt. Lt. H. J. Gilbert, R.A.F.—a daughter.

RAE.—At a nursing home, Alexandria, Egypt, on June 17, the wife (Jean S. Robertson) of L-AC. Rae, R.A.F.—a son.

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THE AERONAUTICAL
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THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Grey

UNIVERSITY OF ILLINOIS

Vol. XXXIII. No. 2. SIXPENCE WEEKLY. Registered at the G.P.O. as a Newspaper.

"TO TREAD THE OOZE OF THE SALT DEEP
TO RUN UPON THE SHARP WIND OF THE NORTH."
(SHAKSPEARE—*The Tempest.*)



AN AMERICAN AIR SURVEY:—A Loening Amphibian taxying ashore on the coast of Alaska.

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"Science has not yet developed any instrument that will enable the air navigator to locate himself in a fog except by wireless bearings."

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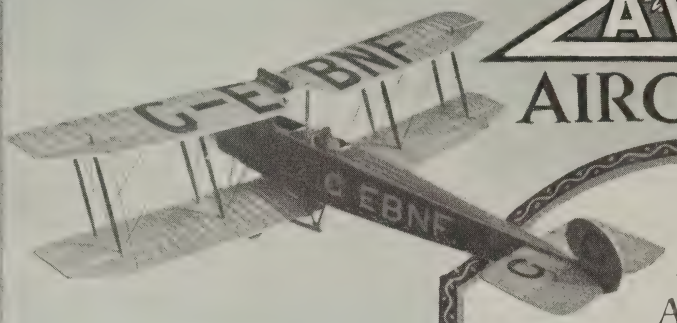
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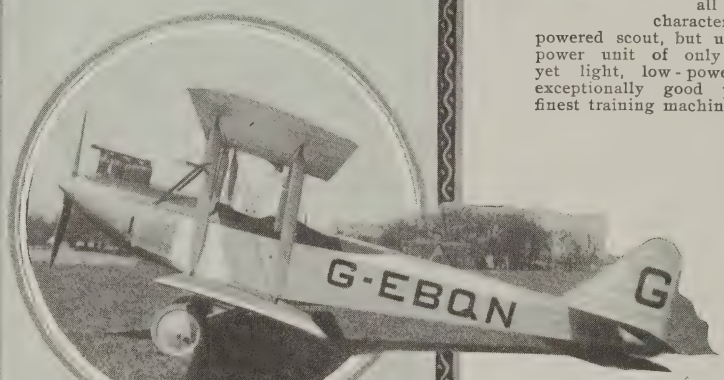
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JULY 13, 1927.

THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 2.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8s. U.S.A., 1 Year, $8.50c.

ON OUR DISTINGUISHED VISITORS.

Quite naturally the R.A.F. Display at Hendon is regarded by the nations of Europe as the greatest event of the year in military aviation. Nowhere else in the World can people see such a complete exposition of Air Power.

Much of the Display is pure make-believe, such as the bombing of the Set Piece and the air fighting and so forth. And under bad weather conditions much of the real work, such as formation flying and other exhibition flying, does not look as good to the ordinary spectator as many people may have seen at various R.A.F. stations or at some exhibition of flying abroad. But the experienced flying officer of any nation can judge the quality of our Air Force both in men and machines just as well in bad weather as in good.

From the make-believe performances he can judge the possibilities of our Air Force under the conditions of active service, just as any experienced soldier can judge the extraordinarily high efficiency of our Army from the make-believe parlour-tricks of the Tournament at Olympia and the Tattoo at Aldershot.

Moreover, there is the additional advantage in the R.A.F. Display, from the point of view of the keen observer, that the personnel of the R.A.F., both officers and men, have worked up to that particular pitch of perfection in the course of their regular training throughout the year, and that whatever the individual pilots of any given formation do at the Display would be done in any case over their own aerodrome, or over open country in co-operation with other units, though probably at a much greater height.

This is where the Air Force has the advantage over the Army which, in order to do its own particular stunts at Olympia or Aldershot, has to take a certain number of men off their regimental duty for anything between three months and six months, which upsets the training of their units instead of intensifying the training, as happens when the final stage of training for the R.A.F. Display begins.

The fact that the R.A.F. Display does not illustrate specialised training by individual pilots or units is shown by the fact that until two or three weeks before the Display nobody knows exactly who, or which unit, will be chosen for any particular event. And very often at the last moment certain events are performed by people other than those shown in the programme.

The Best Opportunity.

Seeing then that the R.A.F. Display is as it is, nobody need be surprised that anybody on the Continent, or for that matter anybody from the other side of the Atlantic, who wants to see the best Air Force in the World at its best, should come to Hendon on the day of the Display. Pilots who are mere pilots and nothing else come to see how well our best pilots fly, either alone or in formation, and at the other end of the scale the most highly intellectual staff officers come to see for themselves the perfection of the staff work which enables the Air Force to get off for and land after every event with the regularity of a chronometer, and the equally perfect staff organisation which times the movements of every unit in the air so that they arrive exactly at the right moment over the aerodrome.

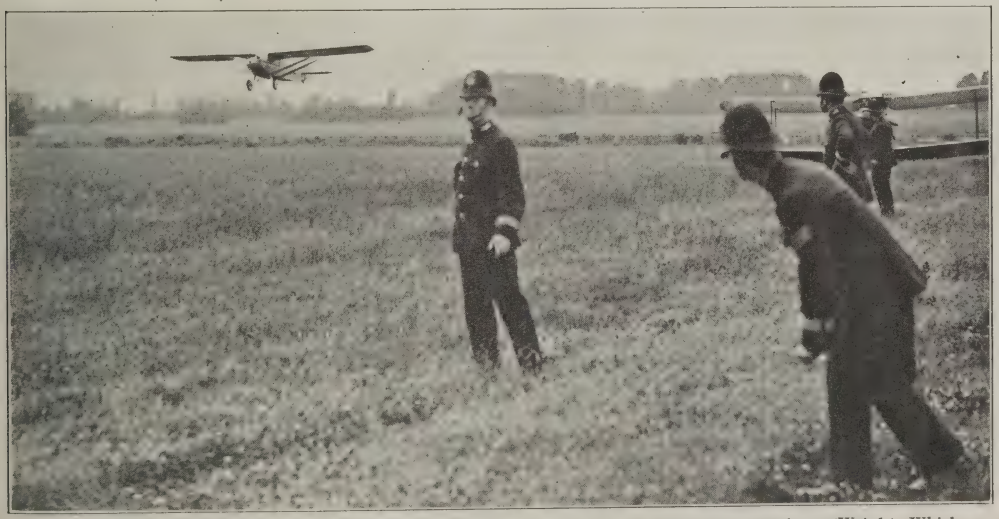
Foreign Powers can in fact learn more about the R.A.F. in a day at Hendon than the most perfect spy system could discover for them in the rest of the year. And the more they learn the better for us, because they are all the less likely to embark lightheartedly on a policy of competition for Air Power.

Naturally therefore everybody concerned with the R.A.F. is pleased to see aeronautical visitors from abroad, and is willing to show them everything there is to be shown at Hendon. Equally naturally, some people who rather pride themselves on the importance of their own Air Force and its influence on international air politics are rather touchy about the importance to the World at large of the R.A.F. and its Annual Display.

French Querulousness.

This probably accounts for the peculiarly feminine virulence of the recent attacks in the French papers on the British Government, based on the very simple fact that a few German officers chose to come and see the R.A.F. Display and were civilly received by their former enemies in this country. The story as published in the French papers is that fourteen German officers, six of whom formerly served in the German Field-Flying-Troops, were invited to come to the Display as guests of the British Government.

The French papers protest that under Article 198 of the Treaty of Versailles Germany is forbidden to have any military aviation at all, and that the fact that six former flying



AN OFFICIAL RECEPTION.—Mr. Chamberlin and Mr. Levine, in the Bellanca monoplane (Wright Whirlwind) arriving at Croydon. They were received by the Home Secretary's Force in force.

officers of the German Army should be among the visitors is an acknowledgment by the English that this important Article can be ignored.

Also the French protest that under Article 179 of the Treaty of Versailles the German Government is forbidden to send abroad any military, naval or air missions. And of course they argue that this little party of visitors constitutes a mission within the meaning of the Treaty.

The German Reply.

The German reply is, quite simply, that these particular officers were not a military mission, but merely went to the Display as spectators—like anybody else who paid at the gate. All of them were members of the German Ministry of Defence, and they were given passes to the Display as a matter of common courtesy from the British Military Attaché in Berlin with the approval of the British Government.

Even this is an overstatement of the truth, for in fact the German visitors bought and paid for their own tickets like gentlemen before they went to Hendon at all. And, as an R.A.F humorist remarked, "There was nothing to prevent them, if they had wished, from joining the Jews and seeing the show for nothing from the surrounding hill-sides."

As to Article 179, the Germans argue that it only forbids the sending of missions abroad to give military instruction to foreign armies, and not to parties of German officers going abroad to learn from foreign Services, or merely to see what foreign Services are doing.

Anyhow, the Article is fairly futile, because although the former Allies might object strongly to the German Government organising a great military mission to go to Russia to train the Red Army, nothing that the aforesaid Allies could do could prevent an equal number of German officers going to Russia or anywhere else as individuals and forming themselves into a mission when they got there.

Some German Visitors.

As a matter of fact, one had the pleasure of meeting several of our German visitors and of hearing about others of them from people who know them quite well. And one must say that it was a very real pleasure to meet them. For they were all men who have distinguished themselves in German aviation and their points of view on many subjects were interesting and informative. Incidentally, they were all very much impressed by what they saw of the Air Force and its equipment.

Three of the visitors were very distinguished war pilots. Captain Loerzer, who really came over here to demonstrate the little Klemm-Daimler light aeroplane, which was illustrated in this paper last week, commanded one of the most famous German fighting squadrons during the War. His squadron was a kind of "opposite number" to the famous Richthofen Squadron, and the competition between the two was always very keen. Captain Loerzer himself was officially credited with forty-five aerial victories, and, like so many of our own first-class fighting men, he has a singularly gentle and kindly manner and a very keen sense of humour.

Another visitor was Captain Goring, who succeeded to the command of the Richthofen Jägdstaffel after its great leader was killed. He also is of a type singularly like some of our own fighting pilots, and he is very entertaining company, though entirely different from Captain Loerzer.

Another was Captain Bölle, whom one had not the honour of meeting personally. He commanded the famous Bölcke Squadron after that great pilot was killed.

Another former war pilot was Herr Hentzen, who was a young fighter pilot at the end of the War, and afterwards distinguished himself as a record-making glider before going as engineer in charge of the Albatros Works at Memel. He is now in the Ministry of Air Traffic in Berlin, and came over here to visit some English relatives.

Germany's Flying School.

Three of our German visitors hold official positions in the *Deutsche Verkehrsfliegerschule*, which is an organisation formed to train air-traffic pilots.

Ostensibly this school trains young pilots from the beginning with the intention of their being used by the *Luft Hansa* or any other air traffic concern which may exist or arise in Germany. But as their training includes the flying of light fast machines and formation flying and mimic battles with camera-guns one imagines that the organisation has as its basis the very praiseworthy idea of bringing up a new generation of young German pilots in the way they should go, so that when Russia becomes dangerous and Germany has to stave off the first attack of the Eastern Barbarians, the German Nation will not have to depend entirely on the British Air Force for its defence in the air.

One believes that the *Deutsche Verkehrsfliegerschule* has sixteen stations scattered all over Germany. In spite of the enormous extent of civil air traffic in Germany one hardly imagines that sixteen schools are altogether necessary to supply the wastage among air line 'bus-drivers.

Herr Bölle, already mentioned, was one of the three officers belonging to the Flying School.

Another was Captain Von Gronau, who was Adjutant of the German Naval Air Service attached to the High Sea Fleet, so that he was a sort of liaison officer between German Naval Aviation ashore and what we now call the Fleet Air Arm. Judging from what one has been told of his conversation with English friends the relations between the German Naval Air Service and the High Sea Fleet were almost indistinguishable from those which existed at the time between the R.N.A.S. and R.N., or, for the matter of that, between the Coastal Area and the Fleet to-day. Navy people do seem to run to type all the World over.

Another of the officials of the School was Doctor Zieger, who is concerned with the technical side.

So far as one can gather, the highest German Air Official who was present at the Display was Herr Baumkert, whose position is, roughly speaking, second in command of the German Air Ministry under the famous Captain Brandenburg,—who ought to be particularly respected in this country as he was the leader of the famous daylight raids on London which caused such panics among the foreign and low-class population.

Altogether our German visitors were a very good lot, and we all hope to meet them again. Probably the next occasion will be the great International Aero Show in Berlin which is promised for next year.

A Missed Opportunity.

As the French were so deeply concerned about our German visitors one is a little surprised that they did not make an equal fuss about the pleasure we all expressed at the visit of General Italo Balbo, the Italian Under-Secretary for Air.

The French press and politicians dislike Italy almost as much as they dislike us, and regard the possible aggression of Italy under Mussolini as being nearly as dangerous as that of Germany.



THE GREAT BRITISH PUBLIC.—The Bellanca, with Messrs. Chamberlin and Levine, at Croydon immediately after landing from Paris. The whole mob which met them is included in the picture. (See "Croydon Notes.")

Safety in the Air depends on reliability

Cairo-Cape-Cairo

The R.A.F. flight of four Fairey III F machines, with Napier "Lion" engines, from Cairo to the Cape and back to Cairo, although perhaps less spectacular than the two non-stop flights, was certainly not less useful. Undertaken as a piece of ordinary Service training, under Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., chief staff officer of the R.A.F. Middle East Command, the flight was calculated to afford many opportunities for discovering weak points in machines and engines. Yet so far as is known, no trouble of any sort has been experienced. In view of the fact that the Fairey III F is a comparatively new type, this must be very gratifying to the makers of the machines. As for the Napier "Lions" with which the four machines were fitted, this engine has already more than proved its worth, and so the flight could do little more than confirm a well-established reputation. In this connection it is worth while recalling that four "Lions" did the Cairo-Cape-Cairo-England flight last year. Thus twice four of these engines have successfully come through a strenuous test. In a flight by a single machine, luck may play a certain part. When, however, eight separate machines and engines get through without trouble, the element of luck is reduced pretty well to vanishing point, and the demonstration becomes very convincing.

Flight. 26 May 1927.

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One does not profess to know whether General Balbo was invited to England by special Act of Parliament, or by a personal letter from our Prime Minister, Mr. Baldwin, or at the urgent request of our Air Minister, Sir Samuel Hoare, or whether he was impelled towards us by our Air Attaché in Rome, or whether he merely came to England because he thought he would rather like to see the R.A.F. at work. And nobody particularly cared, so long as he came.

The fact remains that General Balbo did come, and the British Aeronautical Community did its best to make his visit pleasant in an unofficial way, and worthy of such a good sportsman and patriot.

General Balbo's Trip.

General Balbo was taken round the country and shown our Cadet College at Cranwell, and our Aircraft Apprentices' Training Schools at Halton, and the Napier Engine Works, and the Aircraft Works of the Fairey Company, Handley Page and the Supermarine Company. Also he was taken to the De Havilland Works and himself flew a Moth at Stag Lane.

The Air Council had him to lunch at Claridge's on Monday. He had tea with Sir Samuel Hoare at the House of Commons on Tuesday. And on Tuesday night he was the guest of the Royal Aero Club, The Royal Aeronautical Society, The Society of British Aircraft Constructors and The Air League of the British Empire at the Savoy. His hosts included the Duke of Sutherland, Air Vice-Marshals Sir John Higgins, Sir Sefton Brancker, and Scarlett, Col. the Master of Sempill, General Groves, Sir Frank McClean, Sqdn. Comdr. Bird, Capt. Acland, Messrs. Sopwith, Handley Page, Vane, Foster, Short, Allen and Perrin, besides other notabilities. So the gathering was fairly representative of British Aviation.

General Balbo being one of the Big Four in the Fascist Movement it was of course appropriate that he should be entertained by the Big Four organisations of British aviation, though perhaps the bigness of our four is not so big as was his, from the very International point of view.

At most of the functions General Balbo was attended not only by his flying Aide de Camp (or should we call it Aide d'Air?), Lieut. Guerra, but he had also with him Lieut.-Col. A. Pellegrini, his Chief of Cabinet, General R. Verduzio, Chief of the Technical Directorate of the *Regia Aeronautica* and Lieut. Baudoin, who is his Foreign Liaison Officer.

General Balbo's Journey.

On Wednesday morning General Balbo, himself piloting his R.22, accompanied by Lieut. Guerra, left Croydon for Germany by way of Amsterdam. Quite a large gathering went to see him off at the horrible time of 07.00 hours, those present including the Italian Ambassador, our very good friend General Guidoni (the Italian Air Attaché), and repesentatives of the Italian Fascisti and the Italian Foreign Legion. Also two officers of the R.A.F., representing Sir Samuel Hoare and Sir Hugh Trenchard, conveyed to him the good wishes of their Chiefs, and Major Richard (the Civil Air Traffic Officer at Croydon), represented Air Vice-Marshal Brancker, Director of Civil Aviation.

Later in the day the other members of the Italian Air Mission left for Germany in a Luft Hansa Junkers, which by a curious accident made a forced landing at the R.A.F. Armament and Gunnery School at Eastchurch in the Isle of Sheppey, which is quite a long way off the usual Dover-Calais Air Route.

General Balbo's Opinions.

At the party which was given to him by the four British air organisations on Tuesday night General Balbo said how much he had enjoyed his visit. He said that the R.A.F. Display was the finest thing in aviation. As to the British aircraft firms, he said that he was very much impressed by their high standard of construction. He was particularly intrigued by the anodic treatment of duralumin at the Fairey and Supermarine Works, and he was equally impressed by the way in which the Napier Company conduct their Inspection Department and throw out everything except the most perfect material.

Referring to the de Havilland Moth, he said that we were ahead of the whole World in amateur flying and private touring and light aeroplanes in general. Also he said that what he had seen at the Supermarine and Napier Works was the first thing that has shaken his confidence in Italy's ability to retain the Schneider Trophy.—A very graceful remark indeed.

And, as a final compliment, or perhaps as a consolation prize, he pointed out that the British Empire had the longest air route in the World, namely that from Cairo to Basra.

How International Friction is Made.

Now, of course, if the French chauvinist or jingo papers really want to make an anti-British song they have here a very fine opportunity. German officials come here to our R.A.F. Display. The great Chiefs of Italian Aviation also came,—the men who have within a few years raised Italy to the position of being one of the greatest Air Powers.

The great Italian Chiefs then depart in a German machine to Germany, having first paid a strictly unofficial but doubtless pre-arranged visit to our secret Bombing School, surrounded by its barrier of water on the Isle of Sheppey—(Heavens, if they only knew Eastchurch!).

Having then established a close understanding with the Chiefs of German Aviation and having studied the network of German strategic air-lines, and the great German passenger-carrying machines which, according to aeronautical panic-makers, can be so easily converted into long-range bombers, the Chiefs of Italian Aviation return by air through Austria to Italy.

There is yet another point for the friction-mongers. While at Southampton (see picture) the Italian Mission met Senator Marconi, whose yacht was lying in Southampton Water. Is not this clear evidence of a scheme to link up by radio-telephony the big Italian flying-boat patrols in the Mediterranean with the Supermarine flying-boats on patrol all along the West Coast of France?

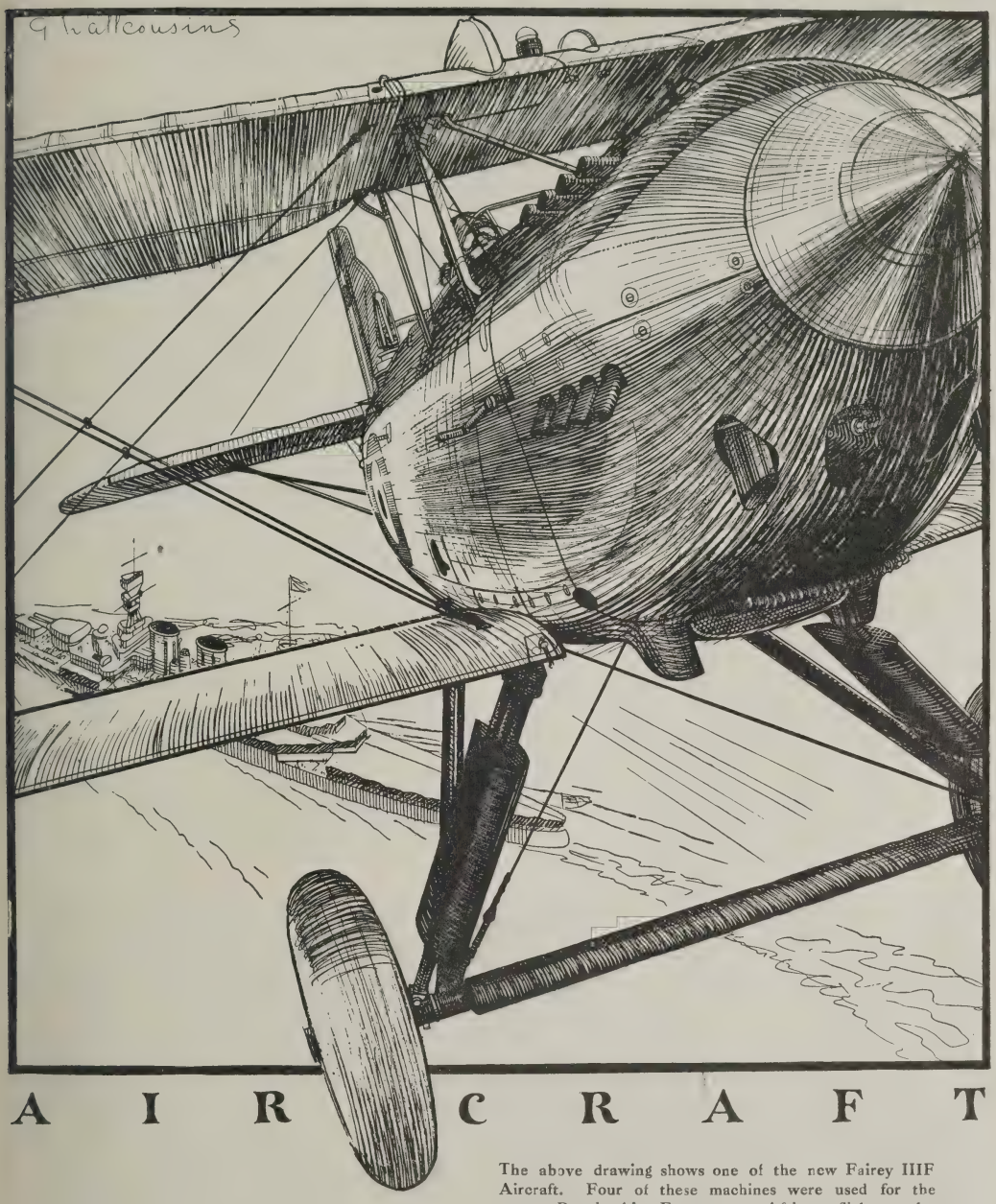
And so poor France, always the victim of perfidious Albion, and brutal Germany, and scheming Italy, is surrounded by a triangle of unfriendly airways with a great air organisation on each point of the triangle,—Rome, London and Berlin.

What a beautiful base this makes on which to build a



DISTINGUISHED VISITORS.—The Italian Mission at the Supermarine Works at Southampton. Left to right:—Mr. Hunns (of the Supermarine Co.), Lt. Guerra, Col. Pellegrini, General Verduzio, General Guidoni, His Excellency General Balbo, Senator Marconi, Squadron Commander Bird (the Supermarine Co.), and Lt. Baudoin.

FAIREY



AIRCRAFT

The above drawing shows one of the new Fairey IIIF Aircraft. Four of these machines were used for the recent Royal Air Force trans-African flight under Air-Commodore Samson, C.M.G., D.S.O., A.F.C.

An aggregate of over 45,000 miles was covered during this highly successful operation, which was undertaken by all four machines to a pre-arranged schedule.

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whole pyramid of air-power propaganda in France. One does so hope that the French Press will not miss it.

Purely as a minor detail, of course, which the French Press may omit, one may mention that only a few days before the R.A.F. Display a distinguished French officer, by name Marshal Foch, visited England in order to have an honorary degree conferred upon him by the University of Oxford. He was entreated to remain for the intervening few days to be present at the R.A.F. Display. But unfortunately he had pressing engagements elsewhere.

That, of course, was our misfortune. But the fact that he was in England a few days before the Display and did not attend the Display may be construed either into a mark of his dislike of England or into a proof that he was not asked.

Also, of course, the French papers need not say anything about M. Briand's fondness for lunching with Herr Stresemann whenever they happen to be within reach of one another.

Anyhow, whatever the French Press say about it, we were all very pleased to see our distinguished foreign visitors, and if any high officials of the French *Service d'Aviation* had taken the notion to come and see the Display we should have been quite as pleased to see them, and they would probably have derived much benefit from the experience.—

C. G. G.

THE KING'S CUP RACE HANDICAP FORMULA.

Last year's race for the King's Cup was handicapped according to a formula which took account of the horse-power per square foot of wing area of each machine. This formula gave figures for speed which represented the performance of machines which complied with an average but more or less arbitrary standard of cleanness of design, and gave an advantage to individual machines which depended on the degree to which they were actually cleaner than this average standard.

All things considered this particular formula gave fairly satisfactory results. It gave rise to certain complaints, largely because any formula of this type which takes account of wing area must be based ultimately on some assumption as to the aerodynamic qualities of the wing-section used. The formula in this case worked excellently with aeroplanes having wings of R.A.F.15 and similar sections, but in the case of machines with sections giving a higher lift, which could therefore afford to use a relatively higher wing-loading, and for the same power-loading had therefore a higher power per square foot of area, the formula speeds were relatively too high. That is the particular formula discouraged the use of any wing section of the high lift type.

For this year's race a new formula has been evolved the basis of which is the ratio between H.P. and span.

The actual formula is : $V^2 = K \times 1{,}000{,}000 \times (P \div S^2)$

where V is the handicap speed in m.p.h., P is the brake horse-power of the engine as developed on the official type test at maximum permitted revolutions, S the "equivalent span" of the machine in feet, and K is a factor which has the value 12 for all water-cooled engines, but which varies between 12 and about 10 for air-cooled engines, the value falling as P/S^2 rises. The value of this factor K is 12 for air-cooled engines when P/S^2 is zero, and falls to 9.75 when P/S^2 becomes .9, following when plotted a curve which differs little from a straight line.

For monoplanes S, the "equivalent span," is the actual span. For equal-winged biplanes the "equivalent span" is the actual span multiplied by 1.265. For a biplane of unequal wings the "equivalent span" is $S_1 + 0.265/S_2$, where S_1 is the span of the greater wing and S_2 that of the lesser wing.

This particular formula at first sight looks somewhat irrational, but a few trial determinations show that it gives a very fair approximation to the real speed of normally designed machines, and a little consideration will show that it should not encourage the production of extreme freaks for the purpose of handicap racing.

With a given engine, the bigger the span used by the designer, the lower will be the handicap speed given by the formula. If there were time to build a machine for this particular race there would therefore be a temptation to use the largest possible span with the smallest possible wing area, thus encouraging machines of high aspect ratio. But this tendency could not be carried unreasonably far, for it would involve cutting down the chord.

As the chord is reduced the room available for spars in any given wing section is also reduced, and the designer who proposed to go to extremely high aspect ratios for the sake of getting a low handicap would either have to use an extremely thick section or a large number of bracing points. This would lead to heavy wings and high bracing resistance, and would reduce the real speed attainable if it were carried to an unreasonable extent.

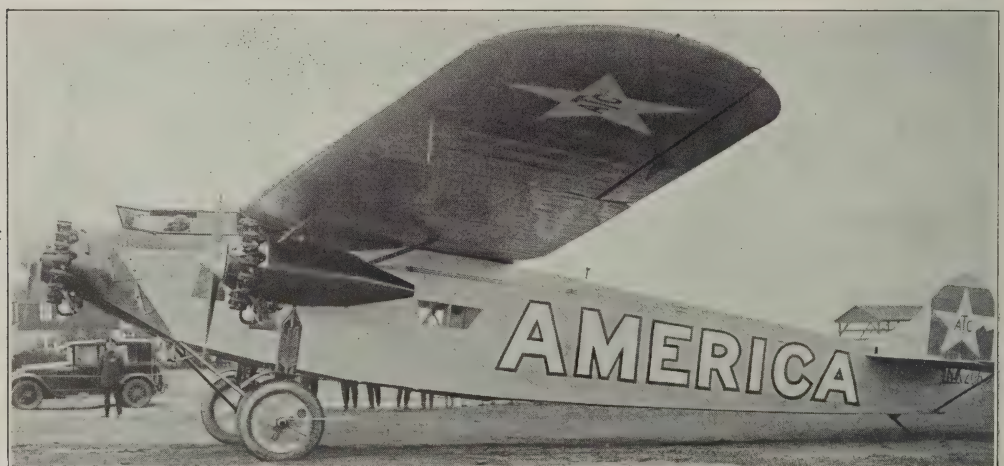
There are very real aerodynamic advantages to be obtained by the use of a large span, but these advantages are far more important at low speeds than at high. If it is found profitable under this formula to increase the span of aircraft beyond the limits now usual, the result will be not to produce freak racing machines but machines with improved take-off and climbing characteristics which are nevertheless clean enough to develop an excellent top speed performance.

The new handicap formula, however, cannot be expected to produce any noticeable effect on British design practice. Judging by precedent a new formula will be invented before next year's race and therefore it is unlikely that any serious effort to design machines to beat the rule will be made.

There is a good deal to be said in favour of the setting up of handicap formulæ of this type. This particular formula, and that of last year, may be considered as setting an arbitrary standard of efficiency in design, and of giving designers an incentive to beat that standard by as much as possible.

Such a rule sets up a sort of aeronautical "bogey." But, just as it is essential that "bogey" for any given golf links should have some measure of permanency, so a handicap rule of this type must be kept in force long enough to encourage the design of a reasonable number of attempts to beat it.

W. H. S.



THE MELTING-POT.—The Fokker F.VII-3m. (three 200 h.p. Wright Whirlwind engines) on which Commander R. E. Byrd, U.S.N., Lieut. Noville, U.S.N.R.F., Mr. Bert Acosta and Lieut. Balchen of the Norwegian Navy, flew from New York to Ver-sur-Mer, France, covering a distance of approximately 4,000 miles in 40 hours. A Dutch machine with American engines, populated by an English-American, a French-American, an Italian-American, and a Norwegian, which alighted in the English Channel in French territorial waters.

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THE ROYAL AIR FORCE.

The London Gazette.

July 5.

General Duties Branch.—Plt. Off. J. F. Griffiths is granted a perm. comn. in this rank with effect from June 3, and with seniority of Dec. 3, 1925, on completion of probationary service. Plt. Off. W. H. O. Rumfitt is granted a perm. comn. as Flg. Off. with effect from, and with seniority of, Sept. 14, 1925. (Substituted for the notification in the *Gazette* of Oct. 27, 1925.)

The following Plt. Offs. are promoted to the rank of Flg. Off.:—P. G. S. Gardiner (Apr. 12), F. B. G. Walker (Apr. 12), L. G. Gray (May 28), J. G. Parkin (May 28), L. C. Phillips (May 28).

Flt. Lt. G. M. F. O'Brien, D.S.C., is placed on half-pay, Scale B, from July 14 to Aug. 31 inclusive.

The following officers are transferred to the Reserve:—Class A.—Flg. Off. W. W. Bradford (June 28), Flg. Off. H. S. R. Burt (July 12). Class C.—Flt. Lt. E. P. Hardman, D.F.C. (July 7), Flg. Off. J. C. Jeffrey, M.C. (July 1). Plt. Off. A. W. L. C. Allen resigns his S.S. comn. (June 27).

Stores Branch.—Flg. Off. E. F. Elliott is placed on the retired list on account of ill-health (July 6).

Accountant Branch.—Flg. Off S. C. Wyatt is granted a perm. comn. in this rank (July 6).

Chaplains Branch.—The Rev. J. A. Jagoe, M.A., is granted a perm. comn. with the relative rank of Sq. Ldr. (July 6)

Legal Branch.—Flt. Lt. R. W. Stevens resigns his temp. comn. (June 12).

Memoranda.—The following Flg. Offs. relinquish their temp. comns. on ceasing to be employed with the Electrical Services Works Co. (July 1):—W. J. Root, M.I.Mar.E., R. W Strugnell, E. G. Taylor.

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—F. A. B. Fawssett, G. V. Kibblewhite, D. A. Naismith, G. J. C. Paul (June 20). R. B. Mitchell is granted a comn. in the Special Reserve as a Plt. Off. on probation (July 1). J. R. Wardrop is granted a comn. in the Special Reserve as a Plt. Off. on probation (June 2) (substituted for the notification in the *Gazette* of June 14).

The following are confirmed in rank:—Flg. Off.—R. L. Green (July 4). Plt. Offs.—T. J. Tingley (June 29); R. E. Hopper, J. F. X. McKenna, E. T. Scott, V. V. W. Vallance (July 5).

Auxiliary Air Force.—Medical Branch.—The following to be Flg. Off.:—No. 605 County of Warwick (Bombing) Squadron.—J. S. Jerome, M.C., M.A., B.M. (July 5).

Appointments.

Week ending July 11.

General Duties Branch.—Wing Commander R. Leckie, D.S.O., D.S.C., D.F.C., to R.A.F. Depot, Uxbridge, 11/5.

Squadron Leaders T. F. Hazell, D.S.O., M.C., D.F.C., to R.A.F. Depot, Uxbridge, 11/6. E. R. Whitehouse, to R.A.F. Depot, Uxbridge, 10/6.

Flight Lieutenants E. O'D. Crean, to R.A.F. Depot, Uxbridge, 16/6. D. L. Blackford, to R.A.F. Staff College, Andover, 16/6. R. Jope-Slade, D.S.C., to H.Q., 'Iraq, 1/7. S. M. Kinkead, D.S.O., D.S.C., D.F.C., to M.A.E.E., Felixstowe, 29/6. B. K. D. Robertson, A.F.C., to Home Aircraft Depot, Henlow, 24/6. J. S. Chick, M.C., A.F.C., to C.F.S., Wittering, 22/6. F. H. D. Henwood, D.F.C., to No. 1 School of T.T. (Apprentices), Halton, 7/7. J. L. Kirby, to No. 9 Sqdn., Manston, instead of to No. 39 Sqdn. as previously notified, 6/7. G. G. H. Du Boulay, to R.A.F. Depot, Uxbridge, 16/6.

Flying Officers (Hon. Flt. Lt.) F. L. Woledge, to School of Naval Co-operation, Lee-on-Solent, 16/6. C. H. Schofield, to No. 16 Sqdn., Old Sarum, 21/6.

Pilot Officers.—The undermentioned Pilot Officers are posted to the R.A.F. Depot, Uxbridge, on appointment to S.S. Comns. as Pilot Officers (on probation), with effect from 1/7:—C. P. Barker, A. S. Barry, E. S. Bateman, M. G. Bircham, R. W. P. Collings, T. J. Davidson, D. Dickson, H. W. Duffey, F. J. Dunne, M. V. Dyas, F. G. Ferrier, D. G. P. FitzPatrick, N. H. Fresson, M. G. R. Harris, T. L. Harrison, A. T. C. Hazeldine, A. D. Jones, M. R. Kelly, P. B. Manning, L. W. W. Modley, H. A. U. Munro, W. R. Monro Higgs, A. L. T. Naish, B. D. Nicholas, L. S. Rollings, A. M. Stevens, I. W. Stevens, D. I. Stewart, R. W. A. Stroud, W. P. J. Thomson, N. E. Whalley. L. K. Mundy, to R.A.F. Depot, Uxbridge, 16/6.

Medical Branch.—Flight Lieutenant D. Loughlin, to Research Laboratory and M.O.S. of I., on appointment, to a S.S. Comn., 27/6.

Flying Officer J. Hill, M.B., to Research Laboratory and M.O.S. of I., on appointment to a S.S. Comn., 27/6.

Stores Branch.—Flight Lieutenant A. T. Wells, to R.A.F. Depot, Uxbridge, 21/6.

Accountant Branch.—Flying Officer W. R. Donkin, to R.A.F. General Hospital, 'Iraq, 8/6.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident at Upavon to a Woodcock machine of No. 17 (Fighter) Squadron, on July 5, No. 341348 Sjt. Frederick Thomas Pennicott, the pilot and sole occupant of the aircraft, was killed.

The R.A.F. Memorial Fund.

The total number of cases dealt with by the R.A.F. Memorial Fund between Apr. 1 and June 30, 1927, was 313. The total amount paid out during that period to past and present members of the R.A.F. was £1,739 0s. 6d.

The grants to post-war members of the R.A.F. include £20 for an artificial leg, £20 for education, £16 13s. 4d. for education, £50 for maintenance and present needs, £4 for part payment of Insurance premiums, and £1 0s. 4d. for payment of Union fees.

Contributions to the Fund should be sent to the Secretary, R.A.F. Memorial Fund, 7, Iddesleigh House, Caxton Street, S.W.1.

No. 208 (Army Co-operation) Squadron.

No. 208 (Army Co-operation) Squadron, R.A.F., which is now stationed at Ismailia, Egypt, under the command of Sq. Ldr. V. S. E. Lindop, was formed in October, 1916, as No. 8 Squadron, R.N.A.S. It became No. 208 Squadron, R.A.F., on Apr. 1, 1918.

As a Unit of the R.N.A.S. the Squadron joined the British Expeditionary Force in April, 1915, and was attached to III Brigade at Chateau de Sains. At that time it was equipped with B.E.2cs.

On July 1, 1916, the Corps Commander, writing of the operations of the 3rd Army, said:—"In our attack No. 8 Squadron did extraordinarily good work. They never once failed us either as regards getting information or taking photographs, and we found that what news they were able to send about the positions of our troops was most reliable."



A ROYAL ESCORT.—Officers of No. 208 (Army Co-operation) Squadron who flew in formation and escorted T.R.H. the Duke and Duchess of York into Lake Timsah during the passage of H.M.S. "Renown" through the Suez Canal on June 14.

Back Row (Left to Right): Flg. Off. F. S. Lamprey, Flg. Off. A. V. Hammond, Flg. Off. R. H. S. Spaight, Flg. Off. C. H. Noble, Flg. Off. H. E. Power (Adjt.), Flg. Off. D. F. Clarke, Flg. Off. G. C. Wilson, Flg. Off. R. Legg, Flg. Off. M. E. B. P. Storrie.

Seated (Left to Right): Flg. Off. A. D. Gillmore, Flg. Off. (Hon. Flt. Lt.) J. C. E. A. Johnson, Flt. Lt. H. L. Rough, D.F.C., Sq. Ldr. V. S. Erskine-Lindop, O.C., Flt. A. H. Power, Flg. Off. R. Duncanson, Flt. Lt. J. Parry-Evans (R.A.F.M.S.).

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B 21

When the other R.N.A.S. Squadrons were detached from the R.F.C. in November, 1917, No. 8 Squadron continued to co-operate with the R.F.C. and during January, 1918, the Squadron brought down 34 enemy machines.

No. 208 Squadron was disbanded on Nov. 7, 1919, and reformed in February, 1920, when No. 113 Squadron, Egypt, became No. 208 Squadron.

The R.A.F. Display Programme.

Though somewhat belated, one wishes to congratulate the compilers of the official programme of the R.A.F. Display on having produced quite the best example of programme arrangement and printing that one has seen. Evidently a good many thousands of people must have appreciated the high quality of the Programme and must have taken it home with them, for every day since the Display there has been a continual stream of letters to this office asking for specimen copies of The Aeroplane in response to the quite small advertisement of this paper which appeared in the Programme. Judging from these practical results the R.A.F. Display Programme must be one of the most valuable publications in which to advertise aircraft or anything to do with them.

Incidentally, and apropos of the value which people attach to their Pageant programmes, one was told some time ago that after last year's Display there was not a single copy of the Programme left lying about in any of the enclosures, with the exception of the particular enclosure reserved for high official guests for whom special copies of the programme had been printed on vellum paper. And quite a number of these special copies were left behind.

R.A.F. SPORTS AND PASTIMES.
Inter-Service Athletics.

The Inter-Service Athletic Championship Meeting was held on July 7 at Portsmouth. The Army were first with 27 points, the Navy second with 19 points, and the R.A.F. third with 13½ points.

The Army won every event except the 360 yards hurdles and the High Jump, both of which were won by the Navy.

The R.A.F. were second in the Three mile team race, the One Mile Team Race and the High Jump.

The R.A.F. Lawn Tennis Championships.

The Army and R.A.F. Lawn Tennis Championships were contested at Queen's Club on July 6, 7, 8 and 9. The Inter-Services Championships will be held at the All-England Ground, Wimbledon, on July 11 and 12.

The R.A.F. Singles Championship was won for the fifth year in succession by Flg. Off. C. F. Roupell, who played a consistently steady and reliable game throughout the Tournament. Mr. Roupell beat Wing Cdr. H. J. F. Hunter in the final, 6—1, 8—6, 7—5. Wing Cdr. Hunter played a vigorous game to the end and was brilliant in patches, but Mr. Roupell seldom made a mistake. The match was played on a hard court.

The final of the R.A.F. Doubles Championship was a triumph of endurance. The battle waged for over ninety minutes and until the last set neither side flagged. This gruelling contest was between Wing Cdr. R. E. Saul and Wing Cdr. H. J. F. Hunter (holders) and Flt. Lt. J. Duminy and Flg. Off. C. F. Roupell. Wing Cdr. Hunter and Flg. Off. Roupell only finished their match for the Singles Championship about half-an-hour before the start of the Doubles. Duminy and Roupell won the Championship by 1—6, 6—4, 10—8, 6—3.

In the first set Duminy and Roupell won the first game and then Saul and Hunter won six in succession. The second set was very close, three-all and then four-all, and then Duminy and Roupell took the last two.

The third set ran to eight-all, when Hunter began to show signs of tiring. Some of his strokes were wild and he drove some apparently easy ones into the net. Saul, on the other hand, was faultless in his judgment, and his innocent-looking service has a deceptive spin in it. Duminy and Roupell took the last two games, but not painlessly.

The last set saw first blood to Duminy and Roupell. Saul and Hunter got the next game and the third. Duminy and Roupell got the fourth and Saul and Hunter the fifth. Duminy and Roupell made it three-all and the holders could not get another game. It was a great match.

The earlier results were as follows. (The first rounds are left out to save space.) :—

SINGLES CHAMPIONSHIP.

Second Round.—Flt. Lt. E. D. H. Davies beat Flg. Off. W. F. Langdon, 6—2, 6—4; Flt. Lt. F. T. Boucher beat Flt. Lt. H. N. Hampton, 6—1, 6—2; Plt. Off. L. Murray beat Flt. Lt. W. H. Poole, 7—5, 7—5; Flg. Off. C. F. Roupell (holder) beat Plt. Off. G. L. G. Richmond, 6—1, 6—3; Sq. Ldr. Murphy beat Plt. Off. Anson, 6—2, 6—4; Flg. Off. Hale beat Flt. Lt. Yool, 6—0, 6—1; Flt. Lt. Duminy beat Flg. Off. R. R. Money, 6—1, 6—0; Plt. Off. A. W. Younghusband beat Flg. Off. C. R. Cubitt, 3—6, 6—3, 6—1; Grp. Capt. A. D. Warrington Morris beat Flg. Off. E. J. Ffoulkes Jones, 5—7, 6—3, 7—5; Flg. Off. L. V. Hirst beat Flg. Off. F. G. Downing, 10—8, 6—2; Wing Cdr. H. J. F. Hunter beat Sq. Ldr. H. H. MacL. Fraser, 6—2, 6—4; Flt Lt. Stokes beat Flg. Off. Leader, 6—2, 2—6, 6—3.

Third Round.—Davies beat Wing Cdr. R. E. Saul, 9—7, 0—6, 6—3; Boucher beat Read, 6—0, 3—6, 6—0; Younghusband w.o., Flt. Lt. W. J. Miller scratched; Plt. Off. R. B. Horstmann beat Warrington Morris, 6—3, 6—1; Hunter beat Hirst, 6—1, 6—4; Roupell beat Murray, 6—2, 6—2; Hale beat F. J. Murphy, 6—3, 6—4; Duminy beat Stokes, 7—9, 6—2, 6—1.

Fourth Round.—Davies beat Boucher, 6—4, 6—2; Roupell (holder) beat Hale, 6—3, 6—2; Hunter beat R. B. Horstmann, 7—5, 6—2; Duminy beat Younghusband, 6—3, 7—5.

Semi-final Round.—Roupell (holder) beat Davies, 6—3, 8—6; Hunter beat Duminy, 6—2, 6—3.

Final Round.—Roupell (holder) beat Hunter, 6—1, 8—6, 7—5.

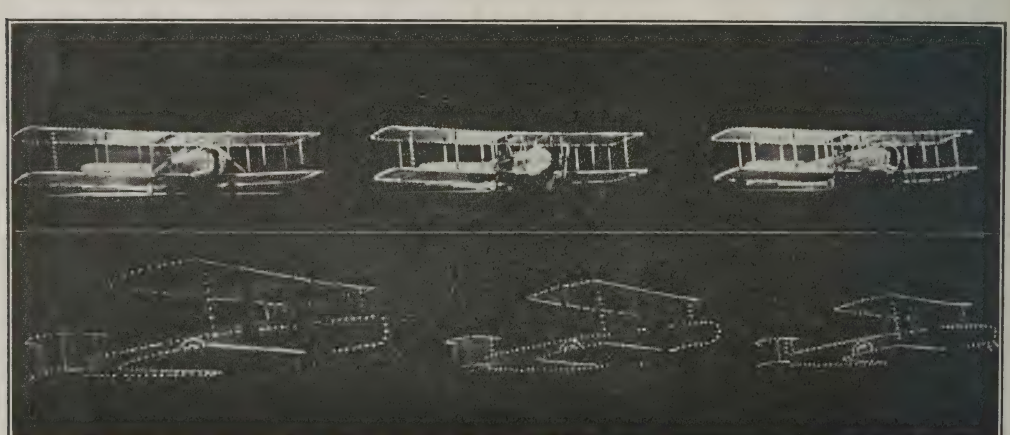
DOUBLES CHAMPIONSHIP.

Second Round.—Flt. Lt. J. Dunning and Flg. Off. C. F. Roupell beat Flg. Off. H. G. Gunton and Plt. Off. L. Murray, 6—2, 6—1; Flt. Lt. F. T. Boucher and Flg. Off. G. R. F. T. Cooper beat Flt. Lt. W. M. Yool and Flg. Off. J. M. Cohn, 3—6, 6—3, 6—4; Sq. Ldr. F. W. Trott and Flt. Lt. H. A. Stokes beat Grp. Capt. A. B. Burdett and Sq. Ldr. J. C. Russell, 6—4, 6—2; Wing Cdr. H. J. F. Hunter and Wing Cdr. R. E. Saul (holders) beat Sq. Ldr. F. J. Murphy and Flt. Lt. E. D. H. Davies, 6—2, 4—6, 6—2; Flt. Lt. H. J. Gilbert and Flg. Off. L. V. Hirst beat Flt. Lt. H. N. Hampton and Flt. Lt. D. S. Earp, 6—2, 6—4; Grp. Capt. A. D. Warrington Morris and Wing Cdr. A. G. N. Belfield beat Grp. Capt. H. V. Wells and Wing Cdr. I. G. V. Fowler, 2—6, 6—0, 6—1; Flg. Off. J. W. Hale and Flg. Off. R. R. Money beat Plt. Off. R. B. Horstmann and Flg. Off. C. A. D. Fidler, 8—6, 4—6, 6—1.

Third Round.—Gilbert and Hirst beat Hale and Money, 6—8, 6—4, 6—3; Warrington Morris and Belfield beat Powell and Leader, 3—6, 6—3, 6—3; Duminy and Roupell beat Boucher and Cooper, 6—0, 6—1.

Semi-final Round.—Hunter and Saul (holders) beat Gilbert and Hirst, 6—1, 4—6, 6—1; Duminy and Roupell beat Warrington Morris and Belfield, 6—1, 6—1.

Final Round.—Duminy and Roupell beat Hunter and Saul (holders), 1—6, 6—4, 10—8, 6—3.



"ALL LIT UP."—Three Vickers Victorias (Napier engines) of No. 216 (Bombing) Squadron, R.A.F., Heliopolis, illuminated for their part in the Military Searchlight Tattoo held in Cairo in June on behalf of the Soldiers', Sailors' and Airmen's Families Association. Each machine was lit by 750 small electric lamps. They flew over the arena in V formation at 300 ft. and vastly impressed the indigenous populace.

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INTER-STATION DOUBLES.

Second Round.—Wing Cdr. W. R. Read and Flg. Off. L. V. Hirst beat Flt. Lt. R. H. Poole and Flg. Off. E. J. Ffoulkes Jones, 6—3, 6—4; Flg. Off. C. F. Roupell and Flg. Off. W. F. Parkinson beat Grp. Capt. C. R. S. Bradley and Wing Cdr. I. G. V. Fowler, 6—1, 7—5; Sq. Ldr. F. J. Murphy and Flt. Lt. E. D. H. Davies beat Flg. Off. W. F. Langdon and Flt. Lt. Harris, 6—0, 6—0; Sq. Ldr. N. F. D. Buckeridge and Flt. Lt. J. Dunning beat Flt. Lt. W. E. B. Powell and Flg. Off. E. L. Leader, 6—4, 6—1; Flg. Off. A. C. Fidler and Plt. Off. R. B. Horstmann beat Flg. Off. H. G. Gunten and Plt Off. L. Murray, 6—4, 3—6, 6—3.

Third Round.—Roupell and Parkinson beat Read and Hirst, 6—3, 10—8; Fidler and Horstmann beat Hampton and Earp, 6—1, 2—6, 6—0.

Semi-final Round.—Murphy and Davies beat Roupell and Parkinson, 6—3, 7—5; Fidler and Horstmann beat Hale and Money, 6—2, 3—6, 10—8.

Final Round.—Murphy and Davies beat Fidler and Horstmann, 6—2, 6—3, 6—4.

VETERANS' CHALLENGE CUP.

Semi-final Round.—Flt. Lt. F. T. Boucher beat Wing Cdr. A. C. Winter, 6—0, 6—0.

Final Round.—Flt. Lt. F. T. Boucher beat Wing Cdr. W. R. Read, 6—1, 6—0.

R.A.F. "PLATE" SINGLES.

Semi-final Round.—Flt. Lt. W. M. Yool beat Wing Cdr. I. G. V. Fowler, 6—2, 5—5, retd.; Flt. Lt. H. J. Gilbert beat Flg. Off. Langdon, 6—4, 6—4.

Final Round.—Gilbert beat Yool, 6—0, 6—3.

The Tournament was played with a glorious disregard for the comfort and information of any possible spectators. There were seats for about eight spectators at each court at the grass courts; and at the hard courts, where the finals were played because the grass courts were too wet, there were no seats at all until the handful of hardy and determined spectators went and foraged for themselves and found a few old wooden chairs in one of the stands which face in the opposite direction.

The various matches were held in the greatest possible secrecy. One could either rush from court to court trying to compare the roars, bleats or mutterings of the various Umpires with the names on the programme or else sit firmly on the most comfortable seat available in front of a court and wait for a good match to come round. One recommends the latter course, as in this way one is bound to see at least one of the finalists playing and can then spot the finals on the last day by the actions, movements or peculiarities of the individual players. Of course all this tends to make Lawn Tennis quite an interesting game.—C. M. MCA.

AIR AFFAIRS IN PARLIAMENT.

SHEIKH MAHMUD.

In the House of Commons on July 4, in reply to a question by COL. DAY, the SECRETARY OF STATE FOR THE COLONIES said that he was not in possession of the text of the agreement between Sheikh Mahmud and the 'Iraq Government nor was he aware whether that Government proposed that it should be published. There had been two British casualties to the forces engaged in the province of Sulaimanai during the last three years, namely one officer killed and one officer slightly wounded. An R.A.F. officer and airman captured owing to a forced landing had subsequently been released. In reply to a supplementary question by COL. DAY, MR. AMERY said that it was not proposed to reduce the British force in 'Iraq in view of the signing of this agreement. He was not aware that the Sheikh Mahmud had in the past been responsible for such a substantial diversion of our forces in 'Iraq as would now involve any large alteration in our programme, which was, anyhow, one of steady reduction of our military force in that country.

THE R.A.F. DISPLAY POSTER.

In the House of Commons on July 4, the following question stood upon the Order Paper in the name of LT.-CDR. KENWORTHY:—To ask the Secretary of State for Air if he is aware that the posters illustrating mimic warfare at the Hendon R.A.F. display show the bombing of a village which, as the minaret and mosque clearly indicate, is a Moslem village; and whether in future care will be taken to avoid the use of obviously Moslem buildings for air attack in such displays, in order to avoid the risk of offending our Moslem fellow subjects?

The UNDER-SECRETARY OF STATE FOR AIR said that he had seen the poster referred to and he suggested that the hon. and gallant Member was taking the designer's fanciful effort altogether too seriously.

LT.-CDR. KENWORTHY asked if it would not be possible to have a poster which did not contain religious buildings at all. As the Right Hon. Baronet knew the East, was he not aware that only Moslem villages had buildings of the type depicted. MR. HERBERT WILLIAMS suggested that next year the noble Baronet might arrange to have a poster illustrating the bombing of the hon. and gallant Member for Central Hull (Lt.-Cdr. Kenworthy). SIR PHILIP SASSOON thought the building on the poster was more like a western lighthouse than an eastern minaret.

[Why not go full-out to please Lt.-Cdr. Kenworthy and his friends next year by having a set-piece showing a Red Air Force bombing London? The troops would love dressing up for it, the Communists could sit in the House of Commons enclosure and lick their lips in joyful anticipation, and the rest of the World would enjoy the joke.—C. M. MCA.]

THE DEPUTY-DIRECTOR OF CIVIL AVIATION.

In the House of Commons on July 7, MR. ERNEST BROWN asked the Secretary of State for Air whether he is aware that a non-service man with no flying experience, whose employment prior to going to the Air Ministry had been at the Board of Education, was recently appointed to the post of Deputy-Director of Civil Aviation; whether he considers flying experience an essential qualification for such a position; and whether he will give an assurance that in filling the now vacant post of Deputy-Director of Civil Aviation in Egypt the post shall not be given to a non-service man, but to one who has actually been a flying officer?

THE UNDER-SECRETARY OF STATE FOR AIR: No new appointment has recently been made to a senior post in the Directorate of Civil Aviation at the Air Ministry, but there has been a certain measure of reorganisation and redistribution of the existing staff and duties, which have been accompanied by certain changes in nomenclature. The gentleman who now holds the appointment of Deputy-Director of Civil Aviation, the duties of which are administrative rather than technical, has for some years past been one of the senior officials of the Directorate of Civil Aviation, and I consider him fully qualified to carry out the duties of his appointment. I may add that in addition to wide administrative experience he is, though not a pilot, well acquainted with the principal civil aviation routes of Europe, over many of which he has made frequent flights. As regards the last part of the question, I am not clear to what appointment the hon. Member refers, but it would appear to be one which falls within the province of the Egyptian Government and not of my Department.

NEW AERONAUTICAL BOOKS.

The following books have been received, and the more important ones will be reviewed in THE AEROPLANE in the course of the next few weeks. Copies of these books may be obtained from Aeronautics Ltd.—Cannon House, Bream's Buildings, E.C.4.

The Remaking of Modern Armies, by Capt. B. H. Liddell Hart. 312 pages, index. 10s. 6d. net. (A dissertation on mechanicalised and chemicalised war.)

The Conquest of the Air, by C. L. M. Brown, M.A. 124 pages, 8 illus., index. 2s. 6d. net. (A review of the ancient history of aeronautics.)

The Wonder Book of Aircraft. 256 pages, 250 illus. 6s. net. (A picture book for children who are able to read. Pretty but inaccurate.)

Jahrbuch für Luftverkehr, 1926/7. (A Year Book of International Air Traffic. Chapters by various authorities translated into German.)

Conquering The Air, by Archibald Williams. 315 pp., 16 illus. 6s. (Quite a useful book for intelligent youths.)

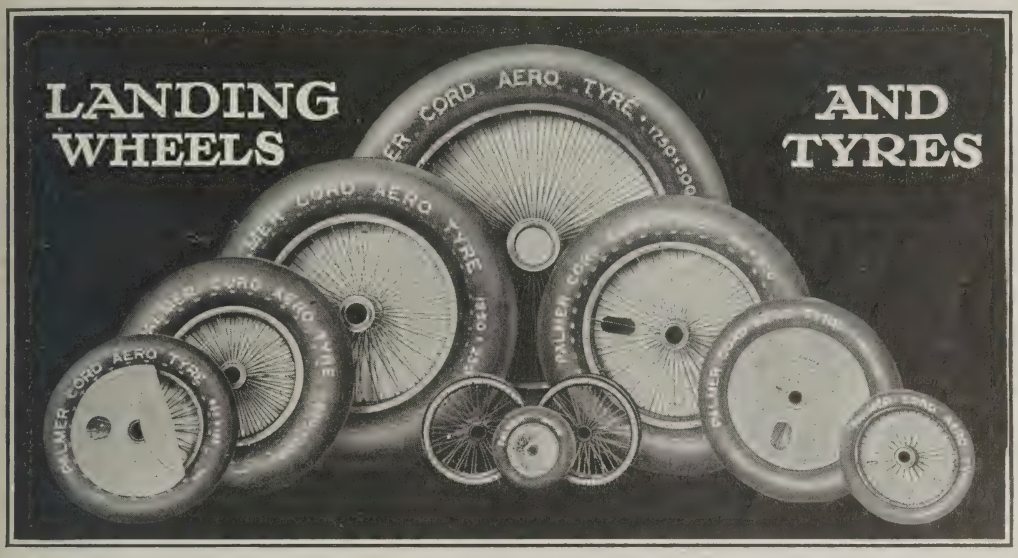
WANTED,—A BACK NUMBER.

If any reader has a copy of THE AEROPLANE of Nov. 6, 1913, that can be spared, will he or she kindly send it to the Editor, stating the price?



THE NAUTICAL NORDICS.—The Dornier Wal (two 450 h.p. Napier Lion engines) in which Mr. F. T. Courtney, accompanied by Mrs. Courtney, Flg. Off. F. W. M. Downer and Mr. R. F. Little, flew from Friedrichshafen, on Lake Constance, to Calshot on Southampton Water, 850 miles in 9 hrs. 12 mins. non-stop. By the time this paper appears the machine may be on its way across the Atlantic.

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"	172	130.	38.09	Central
575×60	21	160.	28.	Central
"	180	150.	38.09	104/46
"	186	120.	34.92	Central
"	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
"	79	178.	44.45	Central
"	100	178.	38.09	132/46
"	101	178.	31.75	132/46
600×75	21	160.	28.	Central
"	180	150.	38.09	104/46
"	186	120.	34.92	Central
"	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
"	79	178.	44.45	Central
"	100	178.	38.09	132/46
"	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
"	92	185.	55.	135/50
"	95	185.	55.	Central
"	99	178.	38.89	132/46
700×100	112	150.	38.09	Central
"	176	178.	44.45	Central
"	179	178.	55.	132/46
650×125	119	178.	55.	132/46
"	147	178.	55.	Central
"	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
"	92	185.	55.	135/50
"	95	185.	55.	Central
"	99	178.	38.89	132/46
"	112	150.	38.09	Central
"	176	178.	44.45	Central
"	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
"	162*	185.	55.	Central
"	163*	185.	66.67	135/50
"	169†	185.	55.	135/50
"	177	185.	55.	135/50
"	183	185.	55.	Central
"	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
"	174	250.	80.	Central
"	182	185.	55.	Central
"	187	220.	66.67	Central
"	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
"	149	185.	55.	Central
"	155	220.	66.67	Central
"	166	185.	55.	125/60
900×200	107	185.	55.	Central
"	108	185.	55.	125/60
"	128	220.	66.67	Central
"	137	250.	80.	Central
"	157	185.	80.	Central
"	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
"	136	250.	80.	Central
975×225	192	185.	60.32	Central
"	194	185.	55.	125/60
1250×250	133	250.	80.	Central
"	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
"	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
"	191	350.	150.3	Central
1750×350	193	400.	125.	Central

Wheels Nos. 161, 162, 163 and 211 are of stronger type than the other wheels for 800 × 150 tyres. †Wheel No. 169 is fitted with Ball Bearings.
Grease gun equipment is now a standard fitting on all wheels.

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THE PARNALL PERCH.—A side-by-side two-seat deck-landing training biplane fitted with a 275 h.p. Rolls-Royce Falcon III engine.

KING'S CUP RUMOURS.

Rumour is always busy in British Aviation circles. For this fact one is largely indebted to the Air Ministry and its policy of secrecy, which often makes rumour the only possible vehicle of truth. In so far as potential entries for the King's Cup is concerned, the able manner in which the Royal Aero Club has concealed the place and the course for this most important event until within three weeks of the event itself has inevitably left room for much uncertainty and has given rumour an unusual opportunity.

At the moment of writing it is highly improbable that those who will eventually enter for the race are themselves quite certain in their own minds as to whether they will or will not enter, and the following suggestions on the subject are necessarily speculative, and may be misleading. On the other hand they may not.

The Avro firm may be represented by the Avenger,—not the Avenger of last year's R.A.F. Display, but an even cleaner and faster Avenger. In addition there is some possibility that an Avian with a new engine may appear.

The Bristol Badminton, again piloted by Mr. Barnard, is another likely entrant. At last year's race for the King's Cup the Badminton, owing to a number of minor difficulfailed to show its true form. In the interval these difficulties have successfully been overcome and it is expected that this machine this year will confound those who criticised it adversely last year.

There is also a rumour that a Bristol machine singularly like the Bulldog, which produced so excellent an impression at the R.A.F. Display may take part in the race.

Other rumours to the effect that either of these machines will on this occasion appear with a Bristol engine bearing the name of a lesser but speedier divinity than Jupiter are to be discounted.

The de Havilland Aircraft Company are said to be preparing a special Moth. Although there is every reason to suppose that one or more Moths will be included in the field, it may be pointed out that a moth is an insect possessing two pairs of wings, and that there is a strong reason to believe that the special de Havilland for this race has only one pair. Here again there is a possibility, but not a probability, of a new engine making its first appearance.

Fairly circumstantial is the story that George Parnall and Company promise to enter the Light Aeroplane Club and Private Owner's market with a new Cirrus-engined two-seater, and that it is proposed to show this machine for the first time in this race.

There is very little doubt that the Hawker Company will be represented by at least one machine, but there seems some doubt as to the type which will be chosen. General opinion inclines to the idea that it will be the Hornbill single-seater with the Condor engine, shown at last year's R.A.F. Display, but otherwise unseen of the General Public.

Short Bros. Ltd. are very likely to be represented by the Short Mussel, their very excellent all-metal light aeroplane. The Mussel is at present being fitted with a Cirrus Mk. II engine, and it is therefore expected to put up an even better performance than it has previously shown.

Unfortunately it will be impossible for the Fairey Firefly to take part in this event as it cannot compete with an American engine, and there is no British engine to fit it. So the hoped-for contest between the Firefly, the Avro Avenger and the Hawker Hornbill will not form part of the programme.

There are several Fairey aircraft which might possibly participate, but no definite indications other than relating to the absence of the Firefly are yet discoverable.

Vickers Ltd. are fairly certain to have one at least of their products in the race. The Vixen, which finished a very good second in last year's race, is still available and is a very possible starter.—W. H. S.



THE PARNALL PERCH.—A side view of the two-seat deck-landing training biplane, designed by Mr. H. Bolas and produced by Geo. Parnall and Co., of Bristol. The land undercarriage can be replaced by floats, and the crew, seated high up and side-by-side, are provided with an excellent view forward and downward.


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THE PROPOSED AMALGAMATION BETWEEN THE R.Ae.S. AND THE I.Ae.E.

The July number of the Journal of the Royal Aeronautical Society records that the postal ballot on the subject of the proposed amalgamation with the Institution of Aeronautical Engineers showed such an equality of opinion for and against the terms of amalgamation suggested in the report of the joint-committee of the two bodies under the chairmanship of Sir George Beharrell that the Council of the R.A.S. did not feel justified in agreeing to these terms.

Accordingly fresh negotiations have taken place between the two bodies.

Objection to the original terms proposed has been on the ground that Fellowship of the R.Ae.S. was a distinction of too high a grade to be conferred indiscriminately on all Members of the Institution.

It is understood that as a result of further negotiations the Council of the Institution has agreed to recommend to its members a modified scheme whereby Members and Associate Members of the Institution will retain that description, and will not be given the alternative of styling themselves Fellows or Associate Fellows of the R.Ae.S. until their claim to that title has been approved by the Council of the Joint Society after scrutiny of their qualifications.

As the Council of the Institution feel that the modification in the proposed terms places their members under no disadvantage, they propose to take no further action unless they receive not later than July 26 notice of objection from at least 20 members.

If such notice of objection is received a general meeting will be convened to discuss the matter. Otherwise the amalgamation will occur automatically.

The new scheme seems eminently reasonable. Fellowship of the Royal Aeronautical Society is essentially reserved for individuals possessing high qualification in the Science of Aeronautics, but not necessarily distinguished for their engineering abilities or experience. Membership of the Institution should be the prerogative of those distinguished by their achievement in practical Aeronautical Engineering, though not necessarily possessed of the academical qualifications which are appropriately expected of Fellows of the Society.

Continuance of the two grades will serve to mark the very distinct characteristics of the two types of qualification, and it may be suggested that it would be no misfortune if the Council of the Joint Society can see its way in the future to perpetuate the existence of the two types of membership.

As there are some Members of the I.Ae.E. who are already Fellows or Associate Fellows of the R.Ae.S. it will presumably be open to them to continue to use either or both of these titles. Will the amalgamated society charge them double subscriptions if they desire to use both?—W. H. S.

THE GREATEST HEIGHT EVER REACHED.

On May 4, Capt. Hawthorne C. Gray, U.S. Air Corps, stationed at Scott Field, Belleville, Ill., reached a height of 12,944 m. (42,470 ft.) in a free balloon, which height has been calibrated by the Bureau of Standards and now awaits homologation by the F.A.I. as the World's Height Record, Class A (Spherical balloons).

The previous World's Record for balloons was held by Herren Süring and Berson, who on June 30, 1901, reached a height of 10,800 m. (35,433 ft.), which height has been surpassed by aeroplanes on numerous occasions. The present aeroplane record is 40,800 ft., so Capt. Gray's record is the greatest height ever reached by a living man.

The following details, extracted from Capt. Gray's official report are interesting :—

The ascent began at 13.33 hours, the balloon taking off fairly light with 3,800 lbs. of ballast available. The rate of ascent for the first 5,000 ft. varied between 500 and 700 ft. per min. From 5,000 to 25,000 ft. the rate averaged approximately 800 ft. per min., and, from 25,000 ft onwards, the rate of ascent was reduced to approximately 500 ft. per min. Radio reception was excellent to 35,000 ft., after which the broadcasting station closed down.

Nothing unusual occured until the height of 40,000 ft. was reached. No dizziness, symptoms of distress, lack of pressure or lack of oxygen were noted. The eye-pieces of the oxygen mask had become almost entirely coated with frost and visibility was possible only through a space about the size of a five-cent. piece, which remained clear throughout the flight.

At 40,000 ft. the ascent slowly decreased. Desiring to reach 41,000 ft., the altitude claimed as an unofficial record by a Frenchman, the pilot walked round the basket testing each individual sand-bag to ascertain that no sand remained. None was found.

In order to attain the extra 1,000 ft. it was decided to drop the cylinder that had been supplying oxygen up to this time (14.05 hours). The valve and gauge was transferred to a new cylinder, and the other one was dropped with its parachute. One glove was removed in order to change the gauge from one cylinder to the other and although it was not replaced for the rest of the flight no freezing or other discomfort was experienced.

During the time of testing the sand-bags a slight pain in the chest was experienced. Having reached the desired altitude and complying with instructions of the medical officers to descend at the first symptoms of distress, the valve was opened for approximately three seconds and the descent started. The rate of descent ranged between 1,400 and 1,900 ft. per min., but as a rapid rate was expected it caused no concern until the eyepieces had cleared at 20,000 ft., when it was noticed that the balloon was not taking on the true parachute shape.

At 18,000 ft. the oxygen mask was removed and equipment, attached to suitable parachutes, was dropped. The rate of descent of the balloon was such that these parachutes after opening appeared to be rising rapidly.

The rate of descent was watched closely from 12,000 to 8,000 ft., when it was decided to leave the balloon, as the pilot was assured that the balloon was falling too rapidly to assure a safe landing. He left by parachute and landed safely in a ploughed field near the village of Golden Gate, Ill., approximately 110 miles from Scott Field, at 15.05 hours.

The balloon landed at Grayville, Ill., ten miles from Golden Gate, at 15.30 hours.

THE CATERPILLAR CLUB.

The membership of the Caterpillar Club now stands at 46, with a total of 54 life-saving parachute jumps.

On May 13, Lieuts. Ramsey and Finch were flying from Washington to Kelly Field, Texas, when their machine burst into flames. Lieut. Finch went over the side with his parachute but Lieut. Ramsey stuck to the machine and made a safe landing, which would seem to indicate that Mr. Ramsey, rather than Mr. Finch, deserves recognition.

On May 4, Capt. H. C. Gray, after making a balloon height record by reaching a height of 42,470 ft., was forced to resort to his parachute after descending to 8,000 ft., when it was discovered that, owing to the amount of gas let out at high levels, his balloon was descending at too rapid a rate to ensure his landing without injury.

On May 28, Major Brereton, Lieut. Bridget and Sergeants Taylor and Miller were flying over Renoldsburgh, Ohio, in a Keystone biplane when the machine caught fire owing to the petrol feed pipe being broken by vibration caused by a broken metal airscrew. These four officers saved themselves by parachute but Private Yeager, another passenger, who failed to jump, was killed in the crash.

Two former members, the late Major Harold Geiger and the late Lieut. E. H. Barksdale, who have since been killed under circumstances which prevented them using their parachutes, are not included in the above figure.

INTERNATIONALISM.

As the Dutch Air Ministry has made no arrangements whereby pilots and others may sit for their navigators' licences, Mr. Aler, assistant aerodrome manager of the K.L.M. at Rotterdam, recently came to England and successfully passed the Air Ministry examination as 2nd-class navigator.

Mr. Aler was naturally handicapped by the technical language difficulty, although he speaks and writes English fluently, and he was also unable to take advantage of the special course of lectures which were held at Croydon for all British pilots sitting for the examination.

Mr. Aler is thus the first Dutch pilot, and probably the first foreign pilot, to hold a British Air Navigator's licence.

THE POOR OLD ATLANTIC AGAIN.

According to the newspapers no fewer than fifteen trans-Atlantic flights are in prospect, five of them from the United States to Europe.

As the Editor has remarked, one can only do a thing for the first time once, so one must assume that each successive attempt will have some particular feature about it that will lift it just a little above the previous effort. And to what is this going to lead us?

Let us hope it will not lower aviation to the level of Channel swimming, where the frequency of the crossing has completely subordinated the actual accomplishment to the vocation or calling of the performer. And this raises another interesting point.

When a French baker or an American mother swam the Channel all French bakers and pastrycooks and all American mothers rejoiced at the victory of their nationals, and no question was raised as to the nationality of the bathing suits or the source of the grease and other accessories used.

But with Atlantic flying we have British pilots flying German and Dutch aircraft, a French pilot flying an American aircraft with a Lithuanian passenger, American pilots flying Dutch aircraft with British or American engines, and so on. All this is liable to raise international questions concerning equipment which will completely overshadow the importance of the present Naval Disarmament Conference at Geneva.

The only solution is that in future all polyglot attempts should be made only by pilots who can show sufficient reason for escaping from the country concerned, or can produce evidence proving that in the event of success they can abandon flying to take on the leadership of a jazz-band or understudy Pola Negri or Buster Keaton at a moment's notice, and that all aircraft be registered at Geneva and bear the colours of the League of Nations.—L. B.

THE WESTLAND WIDGEON

THE OUTSTANDING BRITISH LIGHT MONOPLANE.

The Flight of Captain Charles Lindbergh from New York to Paris is the supreme vindication of the merits of the monoplane. Added interest is therefore given to this description of Britain's outstanding light monoplane which has one notable advantage over Captain Lindbergh's machine—the pilot's view is unimpeded.

THE Widgeon III is a very strongly built and substantial light aeroplane and it is particularly suitable for real hard work. The machine carries passenger, pilot and about 50 lbs. of luggage. The engine is the well-known Cirrus Mark II, or the Armstrong-Siddeley "Genet." Being a parasol monoplane there is a most excellent view for both pilot and passenger in a downward direction, making the machine ideal for patrol or survey work.

In addition the wings are braced with struts and consequently there is no chance whatever of the rigging getting out of true and needing skilled attention. The passenger's entrance is through a door in the side of the fuselage and he has a very roomy cockpit.

The aeroplane can be supplied with dual control. The machine is economical to run, the petrol consumption being approximately 20 miles per gallon, and the oil consumption is about one pint per hour. The overall dimensions of the machine when folded are only 8 ft. 6 ins. high, 10 ft. 6 ins. wide, and 23 ft. 1 in. long.

ENQUIRIES SOLICITED.

All machines are furnished with an aerobatic certificate of Airworthiness for a total weight of 1,400 lbs. which allows for passenger, pilot and luggage, while the total weight can be increased to 1,600 lbs. without exceeding the permissible load for normal factor of safety.

PRICE (with Cirrus II engine)

£750

Ready to fly away from Works.



THE NOTTINGHAM FLYING MEETING.

The following is the programme of the flying meeting to be held at Hucknall Torkard, near Nottingham, during the August Bank-Holiday week-end :—

Saturday, July 30 :—

The Air Race for the King's Cup.—1st Prize : Cup presented by His Majesty the King and £200. 2nd Prize : £100. 3rd Prize : £50.

Sunday, July 31, and Monday, Aug. 1 :—

(1) *Grosvenor Challenge Cup and Stakes, £100.*—(The Grosvenor Challenge Cup was presented by the Lord Edward Grosvenor.) Open to any type of Aeroplane fitted with an engine weighing not less than 185 lbs. or more than 285 lbs. The Aeroplane and engine must have been entirely constructed in the British Empire, and the Entrant and Pilot must be British subjects. The entrant must be an individual and not a company. Course approximately 15 miles. Handicap Race. First Prize : The Grosvenor Challenge Cup and £60. Second Prize : £25. Third Prize : £15 if six or more starters.

(2) *High Power Handicap—Stakes £150.*—Open to any type of Aeroplane with engine developing not less than 200 h.p. at maximum permissible r.p.m. Open to all Pilots. Course approximately 30 miles. First Prize : £100. Second Prize : £30. Third Prize : £20 if six or more starters.

(3) *Low Power Handicap—Stakes £75.*—Open to any type of Aeroplane the total piston dsiplacement of the engine of which does not exceed 1,500 c.c. Open to all Pilots. Course approximately 10 miles. First Prize : £40. Second Prize : £25. Third Prize : £10 if four or more starters.

(4) *Ladies' Purse, £35.*—Open to any type of Aeroplane. Open to Lady Pilots only. Course approximately 10 miles. First Prize : £20. Second Prize : £10. Third Prize : £5 if four or more starters.

(5) *Society of British Aircraft Constructors' Challenge Cup and Stakes, £75.*—Open to all Clubs associated with the Royal Aero Club. Each Club may enter one Aeroplane, which must be the bona fide property of, and registered in the name of, the Club entering The Pilot must be a Member of the Club entering. The total weight of the Aeroplane when empty must not exceed 400 kilos. (Note :—Weight empty signifies total weight in flying order, but does not include fuel and pilot.) Handicap race over a course of approximately 15 miles. First Prize : The Society of British Aircraft Constructors' Challenge Cup and £50. Second Prize : £25.

(6) *Private Owners' Handicap—Stakes £100.*—Open to any type of Aeroplane privately owned by and registered in the name of an individual. The definition of "privately owned" is at the sole discretion of the Royal Aero Club, who reserve the right to refuse any entries. Open to all Pilots not necessarily the owners of the Aeroplanes. Course approximately 10 miles. First Prize : £60. Second Prize : £25. Third Prize : £15 if six or more starters.

Entries close noon, Thursday, July 21. Entry Fee for each event, 10s. (For King's Cup see separate regulations.)

Full particulars and Entry Forms can be obtained from the Royal Aero Club, 3, Clifford Street, London, W.1.

Any of the races may be flown in heats according to the number of entries received.

Where races are flown in heats the winners of heats who are not placed in the final will receive prizes of not less than £10 each.

In view of several questions raised on the Formula, the Royal Aero Club make the following statement :—

The h.p. used in the formula shall be the h.p. at maximum r.p.m. of the type-tested engine and not of the particular engine entered.

Modifications may only be made to the engine entered making it different from the type-tested engine provided such modifications do not invalidate the Airworthiness Certificate, and have received prior approval of the Air Ministry.

All placed machines in the Race will be examined under Rule (5) to see that the Aeroplane and Engine comply with the Regulations.

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec. : H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending July 9.

Flying Time 52 hr. 45 min. *Instructors.*—Messrs. F. G. M. Sparks and S. L. F. St. Barbe. *Instruction.*—H. M. Samuelson, J. R. De Havilland, Miss Wilson, A. Southgate, H. W. Marlow, J. G. Crammond, P. Hall, R. G. Whalley, R. Maurice, R. Sanders Clark, Miss Spooner, G. H. Craig, A. C. M. Jackaman, W. L. M. O'Connor, L. W. Dent, L. D. Daniels, A. S. Richardson, A. G. Hove, H. R. Presland, E. L. Clarke, W. T. Ballantyne, G. Black, Miss Fletcher, E. K. Blyth, I. E. Nott, J. E. Furlong, A. B. Ferguson, R. Drysdale Smith. *Solos.*—J. G. Crammond, W. Roche Kelly, R. M. S. Veal, W. Hay, Miss Spooner, A. F. Wallace, R. Sanders Clark, O. J. Tapper, Miss O'Brien, W. T. W. Ballantyne, E. K. Blyth, D. H. P. Esler. *Passengers.*—Miss Salisbury, C. Clapham.

Certificates.—A. C. M. Jackaman passed for his aviator's Certificate on July 8. The tests were done on a D.H. Moth which he had recently bought.

The Air League Challenge Cup.—The Club will be represented by one D.H. Moth and the Bristol Brownie in the race for the Air League Challenge Cup, on Saturday next, at Castle Bromwich, Birmingham. The Committee have selected the following Pilots :—W. Hay (D.H. Moth), and L. J. C. Mitchell (Bristol Brownie).

A Presentation.—To commemorate her victory in the first "Aerial Oaks" Miss O'Brien has been presented with a gold wristlet watch.

The Lancashire Aero Club.

[Sec. : C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending July 9.

Flying time 29 hr. 30 min.

Dual with Mr. Brown.—Messrs. Harber 1 hr. 55 min., Anderson 1 hr. 35 min., Allot 1 hr. 15 min., Caldecott 1 hr. 05 min., Hartley and Kinsley 40 min. each, Parker 35 min., Musgrave and Watson 30 min. each, Pattricoux, Meades and Linaker 25 min. each, Gerrard, Tweedale, Hope and Miss Baerlein 20 min. each, Scholfield 15 min., Riley, Torres, Crosthwaite and Ruddy, 10 min. each. *Dual with Mr. Cantrill.*—Messrs. Anderson 30 min., Torres 25 min., Rowley, Tweedale and Stonex 20 min. each, Ruddy and Scholfield 15 min. each. *Dual with Mr. Scholes.*—Messrs. Harber and Caldecott 25 min. each *Solos.*—Messrs. Costa 1 hr. 10 min., Twemlow 1 hr., Lacaye 35 min., Gattrell and Goodfellow 25 min. each., Crosthwaite 30 min., Hardy, Michelson and Williams 15 min. each, Chapman 10 min., Leeming 45 min. *Joy-rides :—With Mr. Cantrill*—Miss Boyes 20 min., Miss Scholfield, Miss Davenport, Mr. Barker and Mr. Hallmark 10 min. each. *With Mr. Scholes*—Marshal 15 min., Miss Bond, Miss Kinnaird, Mr. Dex and Mr. Vaughan 10 min. each. *With Mr. Costa*—Miss Roger 30 min., Messrs. Caldecott and Della 25 min. each, Mr. Ryder 20 min. *With Mr. Goodfellow*—Mr. Leeming 1 hr. 15 min., Miss Lightfoot 15 min. *With Mr. Lacayo*—Mr. Caldecott 20 min., Miss Eugene 15 min. *With Mr. Brown*—Messrs. Caldecott 35 min., Dobson 15 min. *With Mr. Leeming*—Mr. Bower 20 min. *With Mr. Michelson*—Mr. Hardy 10 min.

Weather and engines have been circumvented to some extent.

We have had a number of visitors flying round the Air League Cup course this week. Messrs. MacDonough and Brighton of the Midland Club called in on Thursday and again on Friday, having crossed the Pennines through some fairly sticky weather on the second occasion. Lady Bailey and Mr. Will Hay of the London (and Lancashire in Mr. Hay's case) Club called in on Sunday.

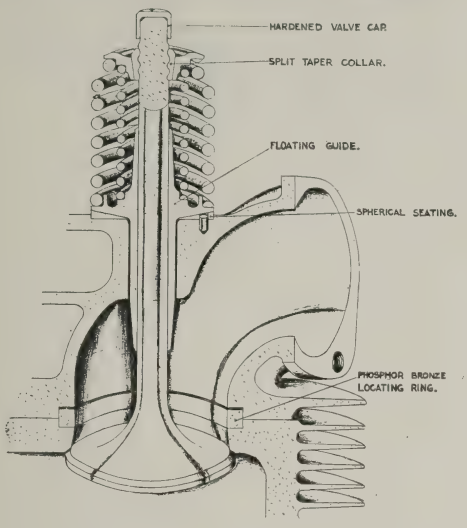
The new Avian, which is being presented by the Avro firm in place of the Gosport, was on the aerodrome at the week-end, its graceful lines causing much favourable comment.

Mr. Caldecott, the Chief Marshal of the flying pageant, has been working tremendously hard on his job and one believes that Saturday's show will be the best organised that the Club has held.



THE LIGHT AEROPLANE HEIGHT RECORD.—Lady Bailey (right) and Mrs. Geoffrey de Havilland, who went up to 18,000 feet (subject to correction) in a Moth X (Cirrus) on Friday last.

FEATURES IN THE DESIGN AND CONSTRUCTION OF THE "Bristol" JUPITER SERIES VI RADIAL AIRCOOLED ENGINE



THE BRISTOL AEROPLANE CO., LTD., FILTON, BRISTOL.

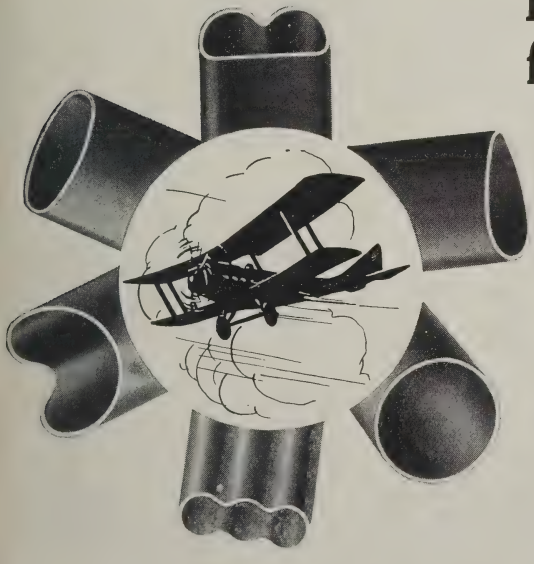
No. 7.—Valve Assembly.

The spherical seating floating guides used for the inlet valves are a feature of British aero engine practice exclusive to the "Bristol" engines. Their use allows the valve to seat itself freely in spite of any distortion likely to occur under running conditions.

From the maintenance point of view, an additional advantage is the ease with which replacements can be made, the guide being simply dropped in posit on.

The twin valve springs, the maximum stress in each of which is only 60% of the safe permissible stress, afford, in practice, absolute security against the risk of a fractured spring, allowing the valve to drop into the cylinder.

The separate hardened valve caps taking the thrust of the rockers permit the most suitable valve material to be chosen unhampered by considerations of wear, and by reducing wear, ensure the maintenance of the desired valve clearances.



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MAKERS & MANIPULATORS OF WELDLESS STEEL TUBING

OLDBURY BIRMINGHAM

Despite his feverish activities Mr. Caldecott has still managed to get in nearly 3 hr. flying with four or five different pilots during the week.

A Useful Week-end.—Mr. Alan Goodfellow, of the Lancashire Club, spent a most strenuous and enterprising week-end. On Saturday morning he started, on the Club's Avro-Lynx, with his wife as passenger, to fly to Southport to take part in a shooting match and a cricket match. Leaving the Avro Aerodrome at 10.30 he reached Southport just after 11.0 a.m. through rather thick weather. The wind being N.N.E. instead of West the question of landing on the school cricket ground presented rather a problem, but a slow cross-wind landing proved successful, without, however, much margin.

Having to take part in a shooting match practically at once Mr. Goodfellow was interested to see whether his eyesight or nerves would be effected at all, but found that the effect was less, if anything, than that produced by doing the same trip by car, as he had done in previous years.

He spent the afternoon playing in the cricket match and, batting early, just had time for a swim before starting off for London to fetch the Bishop of Willochra (South Australia) to preach at Gorton on Sunday.

With the help of one of the Shell Company's representatives, who had come over specially to Southport, Mr. Goodfellow got away at 6.35 p.m., and landed at Stag Lane at 8.35, just in time to win a cocoa-nut at the De Havilland Staff Sports.

Mr. Goodfellow had arranged to take the Bishop, who was preaching at St. Cuthbert's, Kensington, in the morning, to Manchester, where he was to deliver a second sermon in the afternoon.

The Bishop arrived at Stag Lane at 12.55 hrs., and, having tied his luggages onto the undercarriage (for there was no room for them in the in-side) they got away at 13.05 hrs. They landed at Woodford Aerodrome at 14.50 hrs., having flown half-throttle the whole way, with the wind slightly against them.

Mr. Goodfellow remarks that the trip confirmed his opinion of Northern weather. He left Lancashire on Saturday in a thick haze under grey skies and reached London on a perfect Summer's evening. He left London on Sunday on a hot Summer's day and covered the last fifty miles in fog and pelting rain. Meanwhile Lady Bailey and Will Hay, who left Stag Lane in the morning and went round by Birmingham and Sherburn (The Air League Cup course) reached Woodford just after the Avro-Lynx, having had good weather all the way. But, of course, neither they nor Mr. Goodfellow knew of the storm which smote all the West and South of England on Sunday.

The Bishop enjoyed the trip and showed remarkable ability at recognising his whereabouts from the air, considering that he had never been up before. He was so keen on watching the ground, in fact, that he kept looking over the side during the worst of the rain, and probably had a sore face afterwards. They arrived in good time for him to deliver his second sermon.

This was a good show as a demonstration of what air transport can do in case of need—not necessarily in extreme emergency. So, it was a good advertisement for aviation and it was not in any way a stunt.—C. G. G.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending July 10.

Flying time 36 hr. Dual 12 hr. 40 min., Solo 19 hr. 20 min., "A" Pilots 4 hr.

Only one machine on service, G-EBLX, no flying Monday and Thursday owing to bad weather.

Instruction with Mr. Parkinson.—Mrs. Heslop, Messrs. Elmes, Maxwell, P. L. Lawson, Jewett, Wilson, C. E. Shaw, McDougall, Pargeter, Gibson, Robertson, Thirlwell, de Pledge, Wardill, Heaton, Fairless, Davey, Irving, J. Bell and A. Bell. *Solo training.*—Mrs. Heslop, Messrs. Elmes, Turnbull, Pargeter, Wardill, Bainbridge and Jewett. *"A" Pilots.*—Miss Leathart with Mr. Elmes as passenger. Mr. R. N. Thompson with Miss Shepperd, Mr. Turnbull and Mr. Elmes. Mr. C. Thompson with Mrs. Heslop, Mr. Bulmer. Mr. Mathews with Mr Percy. Mr. H. Ellis with Miss C. Ellis and Miss E. Dunford. Mr A. Bell with Mr. J. Bell. Mr M. Irving flew with Mr. Parkinson.

Messrs. Turnbull, Bainbridge and Elmes successfully did out the tests for their "A" Licences on Friday and Saturday, and Mr. Pargeter was "launched" on Sunday, putting up an excellent show.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending July 9.

Flying time 20 hr. 57 min.

Instruction with Mr. W. J. McDonough.—R. Cazalet, Capt. J. E. Brewin, R. D. Bednell, N. Crane, J. Edwards, L. Lee, O. L. Richards *Solos.*—E. J. Brighton, H. J Willis, R. L. Jackson, W. Swann, C. Fellows, S. H. Smith. *Passengers.*—C. H. James, L. V. Mann, J. E. Hicks, E. J. Brighton, G. E. Lamb.

Lady Bailey landed at the aerodrome on Sunday in her Moth.

The Yorkshire Aeroplane Club Ltd.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]

Report for week ending July 9.

Flying time 31 hr. *Dual with Mr. Beck* 15 hr. 50 min. *Solo* 10 hr. 30 min. *Cross-country* 4 hr. 35 min. *Tests* 5 min.

Instruction.—General Atcherley, Capt. Milburn, Miss Watson, Messrs. Brackenbury, Crouther, Henry Leetham, Harold Leetham, Birch, Watson, Williams, Ellison, Wall, Bailey. *Solos.*—Capt. Milburn, Mann, Lax, Wilson, Fielden, Brackenbury, Wood, Dawson, Henry Leetham, Birch, Watson, Atcherley, Clapham, Coles, Wayman.

Mr. Brackenbury, who joined the Club on June 7, did his first solo on July 3 after 8 hours' instruction. In the short space of a month Mr. Brackenbury has become an accomplished pilot, which reflects great credit on Mr. G. R. Beck, our instructor.

During the week Mr. W. Armstrong landed in a Vickers Vulcan six-seater on his way from Torquay to Middlesbro' and replenished.

Mr. E. B. Fielden took G-EBNN over to Skipton on Saturday, with Miss Wilson, one of our lady members, as passenger, and gave an excellent exhibition of aerobatics to the Hospital Gala.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending July 10.

Flying time 23 hr. *Instruction* 8 hr. 40 min. *Solos* 10 hr. 50 min. *Joy-riding* 3 hr. *Tests* 50 min.

Instruction.—T. F. Brewster 1 hr 10 min., A. L. Fortlage 1 hr. 5 min., J. Dunnings 50 min., B. Whittle 40 min., T. McCracken (our ground engineer) 45 min., M. R. Berney 35 min., W. M. C. Wall 30 min., Commander A. W. Hunt 30 min., A. R. Mellor 30 min., E. A. L. Parker 30 min., W. D. Cox 25 min., R. H. Chaffey 25 min., A. H. Greasley 25 min., Comte J. de Bibour 25 min., D. A. R. Cripps 20 min., W. T. J. Stanford (our assistant to McCracken) 20 min., Everett 20 min., W. P. Courtney 15 min., F. A. Kerry 15 min., F. G. Molony 15 min., and D. L. Rumble 10 min. *Solos.*—Don Juan de la Cierva 2 hr. 10 min., E. T. Symmons 3 hr. 30 min., the Hon. H. R. Grosvenor 1 hr. 50 min., V. F. Nicholson 35 min., K. P. L. Bowen 40 min., Flg. Off. Southey 35 min., Flt. Lt. A. M. Kimmins 25 min., Lieut. P. D. Oliver, R.N., 20 min., S. Fry 15 min., E. I. C. Wyllie 15 min., R. H Cooper 10 min., and E. A. L. Parker 5 min.

The Hon. H. R. Grosvenor and Mr. E. T. Symmons passed the tests for their R.Ae.S. Certificates this week.

Mr. Symmons is one of our temporary members, he learned to fly at the London Club and has spent a two weeks' holiday air-hogging at Hamble. Incidentally, he demonstrated the utility of the light aeroplane this week by flying over to Selsea, where he landed on the sands in front of a friend's house.

Mr. E. A. L. Parker (a former member of the Shoreham Club) made a most successful first solo on a Moth on Sunday.

Mr. K. P. L. Bowen has kindly consented to assist Mr. Thomson by carrying joy-riders, and he will be with us in the evenings and at week-ends for this purpose in future. This week-end he carried Miss Olden and Mr. N. K. Bayne.

Mrs. Fortlage, Mr. Bayne, Mr. Macrae, Mr. Brickwood, Mr Kingham and Mr. J. H. Brady flew with Mr. Thomson; Mr. W. Clarke with E. I. C. Wyllie; Miss B. Hodges with Flt. Lt. Kimmins; and Mr. C. W. Jones with Lt. Oliver.

A Norfolk County Fête.

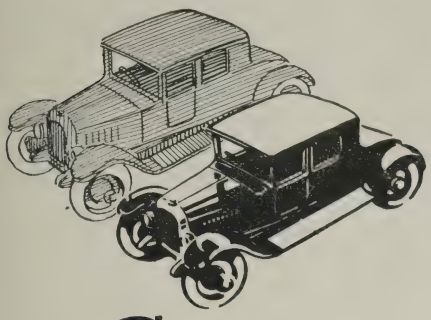
Readers in the Eastern Counties should note that an Aerial Fête is to be held at Raynham Park, Fakenham, the seat of the Marquess Townshend, on Saturday, July 23, under the auspices of the Norfolk and Norwich Aero Club. Lady Townshend, the mother of the young Marquess, is entertaining a large house party for the fête.

Prices of admission are 2s. 6d. and 1s., children 3d., cars 2s. 6d. The proceeds will be devoted to the Norwich Hospitals and the Norfolk and Norwich Aero Club.

Among the pilots who have promised to fly at the fête are Lady Bailey, the Lord Ossulston, Colonel the Master of Sempill, Mr. Bert Hinkler, Mr. Bramson and Mr. Broad. There are hopes that others from among the gallant little band who devote their week-ends to making the Nation air-minded will also appear.



EPISCOPAL PROGRESS.—The Bishop of Willochra and Mr. Alan Goodfellow and the Avro-Lynx at Woodford.



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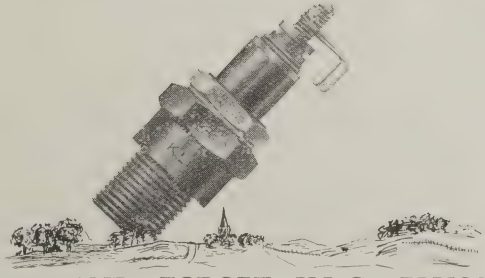
18,000 ft.

The Hon. Lady Bailey *accompanied by* Mrs. Geoffrey De Havilland on Wednesday, 6th July, 1927, in a MOTH plane (Mark II Cirrus engine) reached 18,000 feet—a world's altitude record for light aeroplanes

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 27; Tuesday, 24; Wednesday, 31; Thursday, 26; Friday, 27; Saturday, 20; Sunday, 13

IMPERIAL AIRWAYS LTD. :

Paris—London; London—Brussels—Cologne : Machines 77, passengers 649, freight 26 tons.

AIR UNION :

Paris—London : Machines 38, passengers 136, freight 14 tons.

K.L.M. :

Amsterdam—Rotterdam—London : Machines 23, passengers 125, freight 4 tons.

DEUTSHE LUFTHANSA A.G. :

Berlin—London : Machines 16, passengers 78.

SABENA :

Brussels—London : Machines 11, passengers 56

PRIVATE :

Machines 3, passengers 4.

Total number of trips by British Machines, 77, carrying 649 passengers. Foreign Machines, 91, carrying 399 passengers.

COMPARATIVE FIGURES.

Week ending July 10 :

Machines, 168; Passengers, 1,018; Crews, 310; Total personnel, 1,358.

Corresponding week, 1926 :

Machines, 161; Passengers, 1,051; Crews, 207; Total personnel, 1,258.

Corresponding week, 1925 :

Machines, 172; Passengers, 851; Crews, 222; Total personnel, 1,073.

Corresponding week, 1924 :

Machines, 173; Passengers, 741; Crews, 214; Total personnel, 955.

Corresponding week, 1923 :

Machines, 111; Passengers, 542; Crews, 185; Total personnel, 727.

Corresponding week, 1922 :

Machines, 145; Passengers, 326; Crews, 235; Total personnel, 561.

Corresponding week, 1921 :

Machines, 115; Passengers, 426; Crews, 143; Total personnel, 569.

Corresponding week, 1920 :

Machines, 108; Passengers, 232; Crews, 126; Total personnel, 359.

Croydon Notes.

Mr. Chamberlin, accompanied by Mr. Levine, arrived at Croydon aerodrome on Friday on the Bellanca monoplane on which they flew from New York to Berlin. There was a large crowd of police present to greet them, but the number of spectators present about equalled the number of police present when Capt. Lindbergh arrived on that famous Sunday afternoon in the brave days of old.

Psychological momentum is a curious thing. It seems difficult to explain why that enormous crowd should have turned up to see Lindbergh and why less then 100 people should have come to see Chamberlin. In the Lindbergh affair the momentum was started by the nature of the flight and the personality of the pilot. The newspapers kept up the interest. The time of arrival was Sunday afternoon. The day was fine.

Nevertheless it does seem curious that so very little interest should have been taken in Messrs. Chamberlin and Levine.

The passenger traffic has lately been very heavy from Paris to London, though for some curious reason it has not been so heavy the reverse way. The operating companies find that there are curious and regular fluctuations in loads.

At a certain time of the year there is a very heavy outward traffic and a small inward traffic on one particular route and on another occasion the reverse is the case. Sometimes the traffic is heavy both ways and then suddenly it drops right off. Such fluctuations cause grey hairs to appear in the head of Mr. Eskell and the staff of the traffic department.

The new buildings are nearing completion. The two main hangars are complete and the office block, control tower, booking hall, etc., are well on the way. The workshop and transport sheds are a long way from being finished and the hotel has just been started.

The new wireless station is to be erected near the junction of Purley Way and the Croydon-Mitcham tram route. Thus the danger of having high masts in the neighbourhood of the aerodrome will be eliminated and machines will be able to be brought by directional wireless right to the aerodrome. Direction-finding becomes useless within a mile or so of the station and the new station will be about two miles away from the aerodrome.

Fraulein Rasche, the German trans-Atlantic aspirant, arrived at Croydon on Saturday night at 9.30 p.m. on her own machine. Her lateness caused some anxiety at the aerodrome. The reason for her late arrival was that she had been forced down by bad weather in Kent after being held up by officialdom in France. On Monday she flew to Southampton and took ship to the United States.—G. D.

NEW YORK TO EISLEBEN.

Herr Kurt Eitzen, of Minden, writes explaining precisely why the second flight from New York to Europe had to go to Germany. He points out that the aviators were doomed by their family names to do so. Obviously he is right. Where else could CHAM-BERLIN and LE-WIEN (or Le Vienna) go?

WHOLESALE LICENSING.

According to a New York correspondent of *The Times* the Department of Commerce—which under the new regulations controlling civil flying is the body responsible for the issue of the various licences required for all non-military aviation—has been swamped under by application for licences for civil aircraft pilots and ground engineers. 5,000 applications for such licences were said to be in hand at the beginning of this month.

So far as can be ascertained the total number of licences of all types issued by the British Air Ministry and valid at the present time is in the neighbourhood of 800. It would be interesting to see what would happen to our Directorate of Civil Aviation if 5,000 applications for new licences of various kinds were fired off at it in one period of six months.

THE DE HAVILLAND SPORTS.

The annual sports of the De Havilland Aircraft Co. Athletic Club were held at Stag Lane aerodrome on Saturday. A crowd of 1,800 people turned up, which exceeded the expected attendance by 1,720.

All the events were very closely contested and there was much inter-departmental rivalry. The standard of athleticism of the company is very high.

There was a big demand for 2s. 6d. flights in a Moth and there was a fine display of stunting by Mr. C. D. Barnard.

The ankle competition was a great success. The judges were the full Board of Directors, who judged partly from a designing point of view and partly from an A.I.D. outlook.

The most popular event was an obstacle race between two Reserve pilots. They first had to get into Sidcot (not Sidcup) suits and then ride a course on donkeys. The donkeys much resented the presence of the riders, whom they dislodged every few yards much to the joy of the onlookers. Finally the pilots transferred to Moths and flew a circuit and landed.

The weather, which had been threatening in the morning, became beautifully fine by the time the sports had begun.—G. D.

TO MOTOR-CYCLISTS.

Readers of THE AEROPLANE, who are concerned, as many thousands of them must be, with motor-cycling, will undoubtedly be interested in a new paper called *The Motor Cyclist Review*, with the sub-title of *Solo and Sidecar News*, which has just been produced by T. G. Simpson and Co., Ltd., Maxwell House, Arundel Street, W.C.2, under the editorship of Mr. F. J. Camm. The paper is extremely well printed and the matter in it is interesting and well informed. The price of the paper is 6d. People who would like an addition to their usual motor-cycle journals will do well to get hold of a copy.

THOSE K.L.G.'s.

A telegram from Karachi sent by Mr. D. M. Rooke, on June 25, who is flying a Moth from England to Australia, has been received by the Robin Hood Engineering Works Ltd. of Putney Vale, S.W.15, which reads as follows :—

"K.L.G. plugs first class using original set—Rooke."

This is certainly quite useful testimony to the durability and efficiency of K.L.G. plugs. But as a matter of fact, one's own experience of K.L.G. Plugs impresses one still more. The reason simply is that having had an immense amount of trouble with various and assorted plugs, British and foreign, in the editorial Talbot, one changed onto one particular type of K.L.G. plug, which was recommended by Mr. Carington for that particular engine, and those plugs have now been running for nearly two years.

They have had no attention other than knocking the plug points a bit closer together when they have been eaten away by their own sparks. The plugs have never been taken apart for cleaning and the points of the plugs have never been filed, although the engine itself has during that time been taken to pieces for general overhaul and decarbonising. All told those plugs must have been in service for something well over 15,000 miles, which is something more than the voyage to Australia.—C. G. G.

PERSONAL NOTICES.

DEATH.

PENNICOTT.—At Upavon, Wiltshire, on July 5, as the result of a flying accident, Sjt. Frederick Thomas Pennicott, No. 17 (Fighter) Sqdn., R.A.F.

FORTHCOMING MARRIAGE.

MERCER—SKINNER.—The engagement is announced between Major Cecil A. Mercer, late R.A.F., youngest son of the Rev. A. and Mrs. Mercer, of the Vicarage, Muswell Hill, London, and Winifred M. Skinner, eldest daughter of Mr. and Mrs. W. J. A. Skinner, of "Westralia," Chartfield Avenue, Putney.

BIRTH.

ATTWOOD.—On June 28, at the Anglo-American Hospital, Gezireh, Cairo, to Elsie Margaret (*née* Burton), the wife of E. H. Attwood, Flt. Lt., R.A.F.O., 23, Avenue des Pyramides, Heliopolis, Cairo—a son (Anthony).

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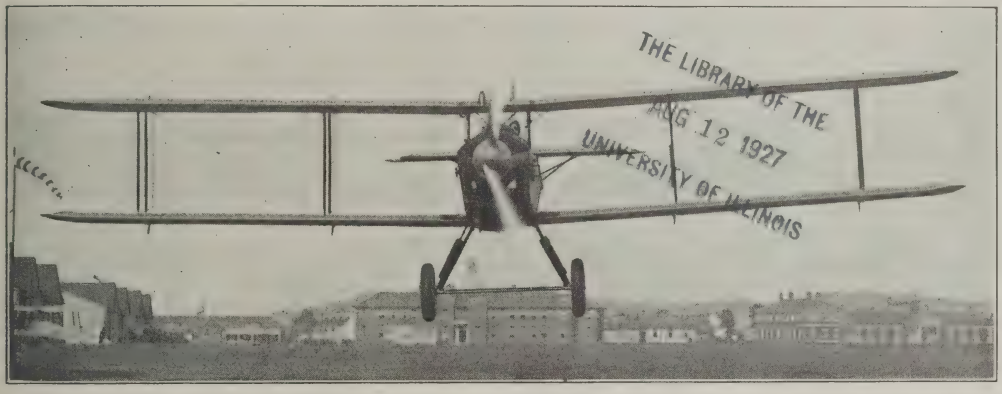
INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Gorey

Vol. XXXIII. No. 3 SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper

"WITH STRANGE AND SEVERAL NOISES
OF ROARING, SHRIEKING, HOWLING."

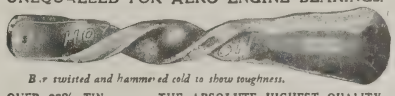
(SHAKSPEARE—*The Tempest.*)


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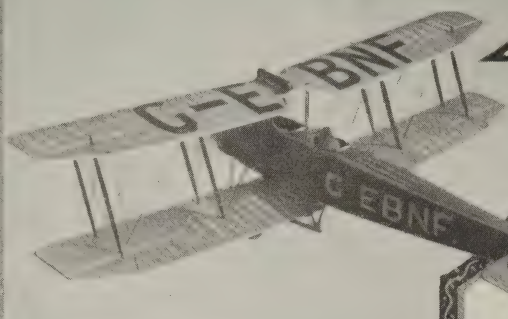
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JULY 20, 1927.

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VOL. XXXIII. No. 3.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months 32s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8$.
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ON THE BIRMINGHAM AIR PAGEANT.

Primarily the Birmingham Air Pageant was organised by the City Fathers of that burg, presumably with the idea of keeping Birmingham "in the movement" and in the limelight. The date fixed was July 16. The Midland Aero Club and the Royal Aero Club had arranged to fly the race for the Air League Challenge Cup on July 9, but to avoid clashing of dates so close together they asked the City Fathers to let them combine their little race-meeting along with Birmingham's own Air Pageant.

Actually the affair resolved itself into a first-class R.A.F. Display with the Aero Clubs as poor relations. Whether the good stolid Midlanders had the intelligence to understand half of what the R.A.F. showed them one cannot even guess. But they certainly saw a display of flying such as could not be seen in any other country in the World. And at any rate all the people who had anything to do with the Air Force during the War appreciated the show. So presumably they explained to their various friends and relatives how good it was.

Actually the flying at Castle Bromwich was a little bit better than it was at Hendon. The clouds were a trifle higher and the air was not bumpy, so the formations were very good indeed.

A good many people have asked why the Air League Challenge Cup, which was originally put up for competition among squadrons of the R.A.F., should now be open to civilians. Apparently the reason is that the Air League, being essentially a political propagandist body, the Air Ministry suddenly awakened to the fact that by allowing R.A.F. personnel to compete for the Cup they were more or less directly associating themselves with Air League propaganda, which was obviously wrong, apart from whether the Air Force as such agreed with the particular propagandist methods of the Air League or not.

Also the existence of the Cup as a Service prize more or less put R.A.F. personnel in the position of being at the beck and call of a civilian body as an attraction at some flying meeting or other, which was also wrong. When the R.A.F. appears at a civilian pageant nowadays it does so as an act of grace and not as an obligation.

Consequently the R.A.F. returned the Cup to the Air League, who then offered it to the Royal Aero Club, who put it up for competition as here indicated.

The first event of the day was the arrival of an Argosy belonging to Imperial Airways Ltd. bearing various notabilities belonging to the Air League and the representatives of sundry London newspapers. This machine, piloted by Mr. F. L. Barnard, was used to take the Lord Mayor and Lady Mayoress of Birmingham and friends to have a look at their city from the air, and after that it took up a quantity of joy-riders. One has no information as to whether it was lent by Imperial Airways out of sheer generosity or hired by the Air League in an outburst of extravagance, or chartered by the Pageant as an advertisement.

Handley Page W.10 (Napier engines) G-EBMM was also busy all day taking up passengers. A Vickers Vanguard which brought Sir Sefton Brancker and Mr. Bertram of the Air Ministry was also part of the show, though being an Air Ministry machine it was not degraded into doing joy-ride work.

The Low Power Handicap.

The only racing of the day, apart from the race for the Air League Challenge Cup, was the Low Power Handicap, in which, to the joy of Mr. Sparks, every heat was won by a pilot trained by the London Club. The first heat was won by Mr. Sparks himself, with Mr. Jackson of the Midland Club second. The second heat was won by the Hon. Lady Bailey with Mr. Willis of the Midland Club second. And the third heat was won by Mrs. Elliott-Lynn with Mr. McDonough of the Midland Club second.

The final was won by Lady Bailey by 100 yards or so from Mrs. Lynn (to whom she was giving 1 minute 23 seconds start on the strength of having a Cirrus Mark II engine), and Mr. Willis of the Midland Club was a close third. Lady Bailey's win was immensely popular, for she has made everybody her friends by her plucky flying, her kindness and consideration for everybody with whom she comes in contact, and her dislike of self-advertisement and self-assertion.

The handicapping for this race was done by Mr. Goodman Crouch on pure judgment and not on formula, and the result over a twelve-



ATTITUDINISING.—Flt. Lt. Fogarty on an Avro-Lynx, at Castle Bromwich, in his favourite attitude,—one wheel and one wing-tip on the ground. The relative positions of the radius-rods of the wheels show that the far wheel is hard down.— (*"Aeroplane" photograph.*)

mile course was very close. All the finishers were on the aerodrome at the same time, and all crossed the line inside 20 secs.

The Air League Cup Race.

Owing to low clouds over the Pennines the race for the Air League Cup was flown from Birmingham to Manchester and back instead of going round by Sherburn, the Yorkshire Club's aerodrome. In this race the handicapping was done according to the formula which has been evolved for the King's Cup Race on July 30. This is calculated on wing-span and engine-power.

The result was a run-away win for Mr. Norman Jones of the London Aeroplane Club on the A.N.E.C.II with a Bristol Cherub engine. Mr. Will Hay, also of the London Club, was second. And Lady Bailey was third,—again a cause for rejoicing among all the amateur and Club fliers.

The course to Manchester and back was 120 miles. In accord with the formula the A.N.E.C. was given 35 mins. 30 secs. start from the R.A.E. Club's special Avro Avian (Cirrus Mark II) which was on Scratch. The standard Moths with Cirrus Mark I engines were given 12 mins. start and Lady Bailey's Moth with the Mark II Cirrus (the only one in the race) was given 4 mins. 50 secs. The only other Avian in the race, flown by Mr. Cantrill of the Lancashire Club, also with a Mark II Cirrus, was given 3 minutes start.

As Mr. Will Hay finished a good bit in front of Mr. Fielden and Mrs. Lynn of the Yorkshire Club, and Mr. Brighton of the Midland Club, presumably he and Lady Bailey both scored over them by superior course-keeping, for, as the result shows, the machines finished in the handicap order of starting, that is to say, the A.N.E.C. first, a Moth (Cirrus Mark I) second, Moth (Cirrus Mark II) third, and the Avians handicapped out of it.

From this one may judge that the King's Cup formula is a washout as a method of handicapping, and that the machines in the King's Cup Race will finish in the order of starting, barring individual accidents to machines and barring bad course-keeping.

Which brings up the whole question of whether a handicap should be designed to discover the best pilot, or the best engine, or the best aeroplane, or merely to produce a dead-heat of all the competitors.

Naturally the London Club people were jubilant over their success; and their able instructor, Mr. Sparks, came in for well-deserved congratulations, for all the heat winners and the first, second and third in the Air League Cup were trained by him from their beginnings. One must not forget, however, to pay a tribute to Mr. Shackleton, now of Beardmore's, who designed the little A.N.E.C. years ago for the Lympne Meeting.

The R.A.F.'s Display.

As to the R.A.F. Display, it was simply Hendon over again. The formation of Moths (Genet engines) from the C.F.S. at Wittering put up as good a show as they did at Hendon except that the two outside wing pilots were a bit fluffy about some of their movements. Flg. Off. Horniman and Serjeant Lowe, of 32 Squadron, did some magnificent aerobatics on Gloster Gamecocks (Jupiter engines). Flt. Lt. Fogarty, of No. 2 F.T.S., careered round on one wheel and a wing-tip in his most hair-raising way, while Flt. Lt. Lydford performed equally alarmingly a few feet higher, both on Avro Lynxes.

Two flights of No. 25 Squadron from Hawkinge, under Sq. Ldr. Park, on Gloster Grebes (Jaguar engines) bombed a mock-up tank in a spectacular way but failed to hit it, and four of the machines stayed in the air afterwards and did some very good air-fighting and aerobatics. These machines having arrived overnight departed after the show with the suitcases of the pilots lashed to the bomb-racks,—

THE AIR LEAGUE CUP FIGURES.

Pilot.	Machine.	Starting Time.			Handicap: Flying Time of Race.			Net Flying Time.			Order of Pl'c'g
		H.	M.	S.	H.	M.	S	H.	M.	S.	
Norman Jones (EBJO)	A.N.E.C. (Cherub)	2	32	0	1	35	30	1	35	30	1st
N. Fielden ... (EBLS)	Moth (Cirrus I)	2	43	45	1	49	39	1	26	9	8th
Mrs. Lynn ... (EBMV)	Moth (Cirrus I)	2	3	45	1	44	55	1	21	25	5th
Will Hay ... (EBMF)	Moth (Cirrus I)	2	43	45	1	42	8	1	18	38	2nd
E. S. Brighton (EBLW)	Moth (Cirrus I)	2	43	45	1	45	19	1	21	49	6th
Lady Bailey... (EcPU)	Moth (Cirrus II)	2	47	20	1	42	57	1	12	17	3rd
J. C. Cantrill (EBRR	Avian (Cirrus II)	2	48	15	1	47	41	1	15	11	7th
Flt.-Lt. Gray (EBQN)	Avian (Cirrus II)	2	49	45	1	44	30	1	9	0	4th

a quaint sight and ungainly. One would imagine that there was room in that great fuselage for a family trunk.

No. 41, the "Spit and Polish Squadron" from Northolt, under Sq Ldr. Fred Sowrey, on Siskins (Jaguars) did their Musical Flight without the music and, thanks to better weather conditions, did it even better. Unfortunately as well as being without the music the aerodrome was without loud-speakers, so nobody heard the true episcopal manner of the Squadron Leader's orders.

Sq. Ldr. Noakes flew a D.H. Moth (Genet engine) even more crazily than he flies an Avro. The D.H. people really ought to make him a machine with a flexible fuselage, and then one believes he would give a demonstration of biting his own tail.

No. 605, County of Warwick (Bombing) Squadron, Auxiliary Air Force, proceeded to attack and blow up "El Khasra Brometta," regardless of the feelings of local Pacifists and friends of coloured folk. The members of the Squadron taking part in this show were: Sq. Ldr. Wright (the O.C. Squadron), Flt. Lt. Cox and Flg. Off. Leach on D.H.9as, and Pilot Officers Knox, V.C., Brinton and Perry on Avro-Lynxes. While this was going on No. 39 Squadron from Spittlegate on D.H.9as come over and gave a very fine demonstration of formation flying.

After this the Service aircraft, including a Vickers Virginia, a Handley Page Hyderabad, a Hawker Horsley and a Fairey Fox, which had been sitting on the ground all day, departed in most impressive style.

Sir John Salmond came down from Air Defence Headquarters on a Bristol Fighter, and one noticed Air Vice-Marshal Sir Robert Brooke-Popham and Air Commodore F. V. Holt also among the spectators.

The Management.

The whole show was excellently run. The Birmingham Club got off the races with the regularity of an R.A.F. Display, and Major Gilbert Dennison was quite distressed because the Race for the Air League Cup actually started two minutes late. The R.A.F. events were stage-managed by Flt Lt. Carr, of Persian Gulf fame, and, of course, were also run to the minute, as he has all the experience of many R.A.F. Pageants behind him.

The actual demonstration flying was all over by 17.30 hours, but one was unable to extricate the Editorial Talbot from the crush of cars until 19.30 hours, despite the efforts of the most amiable and cheery of Police Forces. And even then there were still thousands of cars trying to get out of the two available exits.

If Birmingham ever has another Pageant at Castle Bromwich one



THE NEW TRAINING MACHINE.—The De Havilland Moth (Genet) piloted by Sq. Ldr. J. Noakes, A.F.C., M.M., doing Crazy Flying at Castle Bromwich. The extreme position of the ailerons, although the machine is momentarily on an even keel, is noticeable.— (*"Aeroplane" photograph.*)

Facts!

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strongly recommends the organisers to alter the arrangement of the ground.

The area which was the 1s. enclosure ought to be the higher priced enclosure. It is on rising ground from which people can see down over the whole of the aerodrome. As it was, according to a friendly policeman, people in the back rows of the 5s. and 2s. 6d. enclosures complained that they could see nothing of what happened on the ground.

If the South-West corner of what was the 1s. enclosure were connected with what was the Lord Mayor's enclosure it would link up with the sheds. Also, the people in those enclosures would then have the sun, if any, in their backs during the afternoon. The barrier could be brought much farther down the hill, so as to give plenty of room for parking cars, and several outlets could be made direct onto both the Nuneaton and Tamworth roads, which would simplify immensely getting away by car. The cheap enclosure would then be at the Southern side of the ground in immediate connection with Castle Bromwich station, and so there would be much less mutual interference between foot passengers and the cars.—C. G. G.

THE NOTTINGHAM MEETING

The August Flying Meeting of the Royal Aero Club will take place at Hucknall Torkard Aerodrome, near Nottingham, on Saturday, July 30, Sunday, July 31, and Monday, Aug. 1.

The King's Cup.—The Race for the Cup presented by His Majesty the King will be flown on Saturday, July 30. The Race will start early in the morning and competitors will be arriving and departing at short intervals throughout the day.

The Course, which is approximately 540 miles, is as follows :—

First Circuit : Hucknall (start)—Spittlegate—Huntingdon—King's Lynn—Cranwell—Hucknall : 180 miles.

Second Circuit : Hucknall (start)—Howden—Skegness—Hucknall : 180 miles.

Third Circuit : Hucknall (start)—Spittlegate—Huntingdon—King's Lynn—Cranwell—Hucknall : 180 miles.

The programme for Sunday, July 30, and Monday, Aug. 1, will include Exhibition Flying, Passenger Flights, and the following Races :—The Grosvenor Challenge Cup; The High Power Handicap; The Low Power Handicap; The Ladies' Purse; The Society of British Aircraft Constructors' Challenge Cup; The Private Owners' Handicap.

[The conditions of these races were published in The Aeroplane last week.]



SUCCESS.—Mr. Norman Jones, winner of the Air League Cup, with his joyous instructor, Mr. Sparks (left), and a Birmingham official.— (*"Aeroplane" photograph.*)

Members and Associates of the Royal Aero Club will be admitted free to Hucknall Torkard Aerodrome on presentation of their Membership Badges. The charge for motor-cars will be 2s. 6d. Luncheons and Teas may be obtained on the Aerodrome.



AT CASTLE BROMWICH.—Above, Moths finishing in the Low Power Handicap. Middle left,—Mr. Norman Jones on the A.N.E.C. (Cherub) winning the Air League Cup. Middle right, the Hon. Lady Bailey on her Moth (Cirrus Mk. II) landing after the Air League Cup Race. Below, the line-out for the Low Power Handicap. The nearest machine is the new Westland Widgeon III.—(*"Aeroplane" photographs.*)

F A I R E Y



A I R C R A F T

The above drawing shows one of the new Fairey IIIF Aircraft. Four of these machines were used for the recent Royal Air Force trans-African flight under Air-Commodore Samson, C.M.G., D.S.O., A.F.C.

An aggregate of over 45,000 miles was covered during this highly successful operation, which was undertaken by all four machines to a pre-arranged schedule.

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KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

THE KING'S CUP, 1927.

The following are the entries for the race for the King's Cup, which is to start from and finish at the R.A.F. Aerodrome at Hucknall Torkard, near Nottingham, on July 30 :—

[The name of the entrant is given first and that of the pilot last.]

Leslie Hamilton, Martinsyde F.6 (Viper), Flg. Off. Nevill Vintcent, D.F.C.

Col. The Master of Sempill, Blackburn Bluebird Mk. II (Armstrong-Siddeley Genet), Col. The Master of Sempill.

The Hon. Lady Bailey, D.H.60 Moth (Cirrus Mk. II), The Hon. Lady Bailey.

Wing Cdr. Chas. Breese, A.F.C. (the Halton Aero Club), H.A.C. Biplane (Bristol Cherub-III), Flt. Lt. C. F. Le Poer Trench.

W. Lawrence Hope, D.H.60 Moth (Cirrus Mk. I), W. L. Hope.

Norman H. Jones, A.N.E.C. II (Bristol Cherub III), Norman H. Jones.

T. O. M. Sopwith, C.B.E., Hawker Horsley (Rolls-Royce Condor III), Flt. Lt. P. W. S. Bulman, M.C., A.F.C.

Henry Fildes, Avro Avian Mk. II (Cirrus Mk. II), Mrs. S. C. Elliott-Lynn.

Philip S. Foster (Chairman, the Air League of the British Empire), D.H.60 Moth (Cirrus Mk. I), A. B. H. Youell.

"Harold Brooklyn," Westland Widgeon III (Armstrong-Siddeley Genet), "Harold Brooklyn."

Sir Kenneth Crossley, Bart., Avro Avenger (Napier Lion VIII), Flt. Lt. S. N. Pope.

A. V. Roe, Avro Avian (Cirrus Mk. II), Dudley Watt.

Sir William Letts, K.B.E., Avro Alpha-Avian (Alpha Mk. II), B. Hinkler.

Sir William Letts, K.B.E., Avro Avian (Cirrus Mk. II), ——.

Alan S. Butler, D.H. Moth X (Cirrus Mk. II), Alan S. Butler.

Sir Chas. C. Wakefield, Bart., D.H.71 Tiger-Moth (D.H.), H. S. Broad, A.F.C.

Lady Wakefield, D.H.71 Tiger-Moth (D.H.), C. D. Barnard.

S. L. F. St. Barbe, D.H. Moth X (Cirrus Mk. II), F. G. M. Sparks.

Com. Sir A. Trevor Dawson, Bart., R.N., Vickers Vespa (Bristol Jupiter VI), Sq. Ldr. H. J. Payn.

Douglas Vickers, Vickers Vixen III (Napier Lion V), Flt. Lt. E. R. C. Scholefield, A.F.C., D.C.M.

Sir G. Stanley White, Bart., Bristol Badminton (Bristol Jupiter VI), F. L. Barnard, O.B.E.

Robert A. Bruce, Westland Widgeon III (Cirrus Mk. II), ——.

J. F. Leeming (Chairman, the Lancashire Aero Club), Avro Avian (Cirrus Mk. II), H. A. Brown.

Lt.-Col. J. Barrett-Lennard, C.B.E., D.H.9-Nimbus (Nimbus I), ——.

Lieut.-Col. M. O. Darby, O.B.E., Boreas-Nimbus (Nimbus I), Sq. Ldr. Hubert W. G. Jones, M.C.

Sir Harold Bowden, Bart. (President, the Nottingham Aero Club), D.H. Moth X (Cirrus Mk. II), Bernard Martin.

Flt. Lt. N. Comper (the Felixstowe Aero Club), C.L.A.4 (Bristol Cherub III), Flt. Lt. N. Comper.

As may be seen, a number of the entries are unusually interesting. Taking in order those machines or engines which are not familiar, at any rate in competition flying, we find the Mark II Blackburn Bluebird, a modification of the type which has done so well in the last few years.

Then we find a Hawker Horsley flying in a public competition for the first time.

Next comes a Westland Widgeon III of the new type which appeared for the first time at Birmingham but was handicapped out of the race.

A very interesting entry, as it will probably be the fastest machine in the race, is the modified Avro Avenger with a Napier Lion of the Mark VIII type, which is a direct-drive engine modified from the Mark VII.

Another particularly interesting machine is the Alpha-Avian, the Alpha being the Avro Company's own radial engine built with all the resources of the Crossley Company behind it, plus the air experience of all the Avro Company's specialists.

Yet another interesting novelty is the de Havilland Tiger-Moth, which is a monoplane Moth plus the new de Havilland engine, which is of the four-cylinder-in-line type.

Though not a novelty, the Bristol Badminton has, one gathers, been so modified since last year's race that she will be very well worth watching, and will probably give the Avenger quite a good run for her money.

Probably when the machines appear on the starting line some will be found to have been strangely modified for the race. According to the handicap formula the bigger the span of a machine in proportion to its engine-power the longer the start that machine will get from scratch. Consequently one hears of standard-type machines being fitted with amazing wing extensions which do nothing in the way of lifting and are so thin, to reduce head resistance, that, as one humorist said, the edges are stiffened with Gillette razor blades.

Apparently engines and aeroplanes may be faked to an unlimited extent so long as the faking does not interfere with their airworthiness according to the ideas of the A.I.D. The result may be quite amusing.—C. G. G.

THE NEW CLUB SUBSIDIES.

Speaking at a lunch to celebrate the opening of the extensions of the Club House of the Lancashire Aero Club on July 16, the Director of Civil Aviation, Air Vice-Marshal Sir Sefton Brancker, announced the new subsidy scheme for the Light Aeroplane Clubs which is to come into force from Aug. 1 this year.

The new subsidies are to operate for three years and are then to end. The Air Ministry hopes that three years hence the Clubs will have become self-supporting.

According to the new scheme, £50 is to be paid to each of the approved Clubs for each pilot qualifying for the "A" or "B" Aviator's Certificate.

In addition to this £50 for new licences, £10 will be paid to each Club for each active member on a Club's list who holds a current certificate. Furthermore a grant of 30s. per hour of flying time up to a maximum of 20 hours per annum will be paid to the Club for the flying done by each such individual pilot. Thus each active pilot will be able to earn £40 for his Club.

The total amount of the subsidy will not exceed £2,000 to any one Club in any one year.

This is undoubtedly an improvement on the existing system under which each approved Club was given a grant of £2,000 on its formation with a further grant of £500 a year for the first two years, plus £10 for each member taking his certificate.

The new system should promote efficiency in running the Clubs and should increase the flying hours considerably.

One believes that if the Clubs are properly run and work energetically to get support from their local notabilities, and if they organise well-run displays and pageants, they will easily be able to pay their own way three years hence, apart from the fact that by then aeroplanes should be very much cheaper to buy and to run.—C. G. G.

AIR MAIL CATAPULTS.

It is announced that the United States Shipping Board is considering the possibility of equipping its ships with aircraft to expedite the landing of mail and possibly passengers. Aircraft would be catapulted from the ships when some 400-500 miles from the terminals. If the scheme is adopted it will be tried off the *Leviathan*.



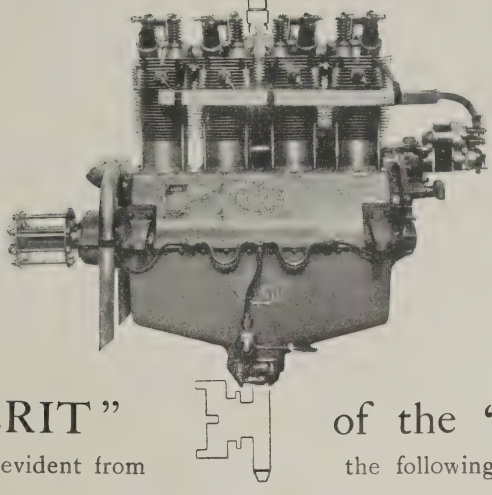
A PANORAMA OF AIR POWER.—The R.A.F. at Castle Bromwich. Left to right, the musical Siskins; the D.H.9as and Avros of 605 County of Warwick (Bombing) Squadron; Gloster Grebes and a Fairey Fox; and a Horsley and a Hyderabad.

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1st KING'S CUP AIR RACE, 1926.
(D.H. "MOTH." Capt. H. S. Broad.)

1st AUSTRALIAN AIR DERBY, 1926.
(D.H. "MOTH." Sir Alan J. Cobham.)

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THE ROYAL AIR FORCE.

The London Gazette.

July 12.

GENERAL DUTIES BRANCH.—Flg. Off. R. E. Bain is granted a perm. comn. in this rank (June 1).

The following Plt. Offs. were promoted to the rank of Flg. Off. (June 16) :—C. M. Heard, V. O. Eyre, W. H. Merton, T. G. Pike, P. J. Stapleton, G. N. Pilcher, H. W. Charnock, A. R. Leslie-Melville, P. W. Lowe-Holmes, D. W. R. Ryley, A. P. Bett.

Flg. Off. J. S. Newall is placed on half pay, Scale B, from June 11, 1927, to June 10, 1928, inclusive.

The following are transferred to the Reserve :—Class A.—Flt. Lt. S. L. H. Potter (July 14). Class B.—Flg. Off. A. C. Smith (July 14). Class C.—Flt. Lt. G. R. Hicks, D.F.C. (July 1).

R. H. S. Teck, Lt., R.M., Flg. Off., R.A.F., relinquishes has temp. comn. on return to Royal Marine duty (May 11) (substituted for notification in the *Gazette* of May 24); Flg. Off. (Hon. Flt. Lt.) L. S. Ingle, M.C. (Capt., Indian Army), relinquishes his temp. comn. on return to Army duty (July 9); Flg. Off. H. B. Holdway (Lt., Wilts. Regt.), relinquishes his temp. comn. on return to Army duty (July 9).

STORES BRANCH.—Flg. Off. J. W. Hustwaite, M.B.E., is granted a perm. comn. in this rank with effect from Oct. 1, 1926, on completion of Probationary service. Flg. Off. E. G. Joliffe is granted a perm. comn. in this rank (July 13). Sq. Ldr. H. T. Foxen relinquishes his S.S. comn. on account of ill-health and is permitted to retain his rank (June 17). (Substituted for notification in the *Gazette* of June 21.)

MEDICAL BRANCH.—J. Hill, M.B., is granted a S.S. comn., as a Flg. Off. for three years on the active list with effect from June 27, and with seniority of June 27, 1926. D. Loughlin (late Capt., R.A.M.C., S.R.), is granted a S.S. comn. as a Flt. Lt., for three years on the active list with effect from and with seniority of June 27. Flt. Lt. J. R. Crolius, M.B., is promoted to the rank of Sq. Ldr. (July 5). Flg. Off. H. P. Sutcliffe (Temp. Capt., General List, Army, Dental Surgeon), relinquishes his temp. comn. on resigning his comn. in the Army (July 6).

RESERVE OF AIR FORCE OFFICERS.—GENERAL DUTIES BRANCH.—The following are granted comns. in Class AA as Plt. Offs. on probation :—A. C. Harper (June 27); R. D. Crofton (June 30). Plt. Off. on probation D. J. T. Haynes is confirmed in rank (July 7). The following are transferred from Class A to Class C :—Flt. Lt. G. B. Holmes (July 10); Flg. Off. K. R. Thomas (July 12).

The following relinquish their comns. on completion of service :—Plt. Off. H. E. London (June 10); Flg. Off. E. H. Du Heaume, A.F.C. (June 24).

Flg. Off. P. D. Baker relinquishes his comn. on account of ill-health, and is granted the rank of Flt. Lt. (July 13).

STORES BRANCH.—The following relinquish their comns. on completion of service :—Flg. Off. H. Forrest, Flg. Off. F. E. C. Finzel (June 17).

Appointments.

Week ending July 18.

GENERAL DUTIES BRANCH.—Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., to R.A.F. Depot, Uxbridge, 19/6

Wing Commanders E. W. Norton, D.S.C., to No. 7 Sqdn., Worthy Down, pending taking over command, 28/7. D. Harries, A.F.C., to No. 1 School of T.T. (Apprentices), Halton, to command No. 2 Apprentices Wing, 1/8.

Squadron Leader J. Noakes, A.F.C., M.M., to No. 22 Sqdn., Martlesham Heath, instead of to C.F.S., Wittering, as previously notified, 15/7.

Flight Lieutenants N. H. Jenkins, O.B.E., D.F.C., D.S.M., to No. 22 Sqdn., Martlesham Heath, 10/7. R. R. Greenlaw, M.B.E., to Home Communication Flight, Northolt, 13/7. E. F. Haylock, to No. 1 F.T.S., Netheravon, 13/7. J. Marsden, to No. 2 F.T.S., Digby, 13/7. H. V. Rowley, to R.A.F. Cadet College, Cranwell, 18/7. F. Carpenter, to Air Ministry, 22/7. G. W. Birkenshaw, to R.A.F. Cadet College, Cranwell, 18/7.

Flying Officers J. S. Phillips, G. S. White, H. N. Davies and L. S. Birt, to No. 2 F.T.S., Digby, 13/7. N. W. F. Mason, J. H. McN. Campbell and C. H. G. Bremridge, to R.A.F. Cadet College, Cranwell, 13/7. F. T. Stacey and C. Clarkson, to C.F.S., Wittering, 13/7. L. A. Egglesfield, to No. 22 Sqdn., Martlesham Heath, 18/7. R. A. B. Stone, to Home Aircraft Depot, Henlow, 10/6. W. C. Venmore, to R.A.F. Depot, Uxbridge, 24/5. C. H. W. Boldero, to No. 605 Sqdn., Castle Bromwich, 3/8.

Pilot Officers E. F. Shine, to No. 9 Sqdn., Manston, 21/6. J. W. Pease, to remain at No. 2 F.T.S., Digby, instead of to No. 4 Sqdn., as previously notified. J. Barton, to No. 2 F.T.S., Digby, 16/7.

MEDICAL BRANCH.—Flying Officer B. L. Edwards, to Station H.Q., Hinaidi, 11/6. Flying Officers (Dental) H. I. Clapperton, to School of T.T. (Men), Manston, 14/7. P. M. Margand, to Electrical and Wireless School, Flowerdown, 14/7.

STORES BRANCH.—Squadron Leader A. J. M. Ross, M.B.E., to Air Ministry, 18/7.

The County of Edinburgh Squadron, A.A.F.

The Court Circular from Holyrood Palace dated July 12 states :—

The King and Queen visited the new Headquarters of the Auxiliary Air Force and were received by the Lord Lieutenant, who made a number of presentations to Their Majesties.

No. 603 (City of Edinburgh) (Bombing) Squadron, Auxiliary Air Force, is stationed at Turnhouse, Midlothian, and has Town H.Q. in Learmouth, Edinburgh. The Squadron is commanded by Sq. Ldr. James McKelvie, A.F.C., Auxiliary Air Force.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident in the vicinity of Chang Chan Island, Hong Kong, to a Fairey Flycatcher seaplane of No. 403 (Fleet Fighter) Flight (China Station), on July 12, Flg. Off. (Hon. Flt. Lt.) Leonard William Hennell Phillips, the pilot and sole occupant of the aircraft, is reported missing, and is presumed killed.

Six Hundred Opportunities.

The Air Ministry announces that six hundred aircraft apprentices, between the ages of 15 and 17, are required by the R.A.F. for entry into the Schools of Technical Training, at Halton, Bucks, and at Flowerdown, near Winchester. They will be enlisted as the result of an Open Competition and of a Limited Competition held by the Civil Service Commissioners and the Air Ministry respectively. Successful



SCOTTISH AUXILIARIES.—His Majesty the King, Chief of the Royal Air Force, inspecting No. 602 (City of Glasgow) Bombing Squadron, Auxiliary Air Force, during his recent visit to Glasgow. No. 602 Squadron is commanded by Sq. Ldr. J. Fullerton, Auxiliary Air Force. On His Majesty's right is Air Commodore J. G. Hearson, C.B., C.B.E., D.S.O., Officer Commanding the Air Defence Group, and behind His Majesty is Air Marshal Sir John Salmond, K.C.B., C.M.G., C.V.O., D.S.O., A.D.C., A.O.C. in Chief, Air Defence of Great Britain. The smart bearing of the Guard of Honour shows that the Auxiliary Air Force is living up to the traditions of the Regular Air Force.

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MODERN EQUIPMENT.—Ten Fairey Foxes of No. 12 (Bombing) Squadron, R.A.F., at Andover. No. 12 Squadron was formed in February, 1915, and became part of the 12th (Corps) Wing attached to III Brigade in 1916 at Chateau de Sains. The Squadron was disbanded in July, 1922, and reformed in April, 1923. It is now commanded by Sq. Ldr. T. E. Salt, A.F.C., and is part of the Wessex Bombing Area.

Candidates will be required to complete a period of 12 (twelve) years' regular Air Force Service from the age of 18, in addition to the training period. At the age of 30 they may return to civil life or may be permitted to re-engage to complete time for pension.

Full information regarding the aircraft apprentice scheme, which offers a good opportunity to well-educated boys of obtaining a three-years' apprentice course of a high standard, and of following an interesting technical career, can be obtained on application to the R.A.F., Gwydyr House, Whitehall, London, S.W.1.

The *Open* Competition, for which a fee of 5s. is charged, is open generally to boys within the age limits who forward completed application forms to the Secretary, Civil Service Commission, Burlington Gardens, London, W.1, not later than Sept. 1. The sons of officers, warrant officers, and senior N.C.O.s of the three Services receive special consideration. In their case applications for nomination should be made to the Secretary, Air Ministry, Kingsway, London, W.C.2, not later than Aug. 11.

The R.A.F. should have no difficulty in getting any number of the right type of boy for this Apprentice system. Every Aircraft Apprentice at Halton and Flowerdown is a walking advertisement of the efficiency of the system and the value of this training to the Service, and the individual.

Air Defence Training.

The Times of July 18 states :—

The following are the camps and training dates of the Territorial Air Defence Units of the London District :—

H.Q. 26th Air Defence Brigade, Anti-Aircraft Practice Camp, Liddymore Farm Camp, Watchet, Somerset, from July 16 to Aug. 14.

51st A.A. Brigade, Anti-Aircraft Practice Camp, Liddymore Farm Camp, from July 17 to July 31.

52nd A.A. Brigade, Anti-Aircraft Practice Camp, Liddymore Farm Camp, from July 31 to Aug. 14.

H.Q. 26th Air Defence Brigade, Anti-Aircraft Searchlight Camp, the Aerodrome, Manston, Kent, from Aug. 14 to Aug. 28.

26th A.A. Bn., Anti-Aircraft Searchlight Camp, Manston, from Aug. 14 to Aug. 28.

26th A.A. Signal Co., Anti-Aircraft Searchlight Camp, Manston, from Aug. 14 to Aug. 28.

Education in Aircraft Carriers.

The Times of July 14 states :—

As airmen are now required to pass educational tests for re-classification and promotion, it has become necessary, states a fleet order, to define the extent to which schoolmasters, R.N., serving in aircraft-carriers, are to assist in connection with the instruction of R.A.F. *personnel*, such work having hitherto been performed on a voluntary basis only. New instructions are therefore given concerning the assistance which naval schoolmasters are to give, as part of their ordinary duties, to Royal Air Force *personnel* when embarked.

The Ubiquitous R.A.F.

In a description of the recent earthquake in Palestine and Transjordania the *Reuter* correspondent at Jerusalem on July 11 wrote :—

The Royal Air Force rendered splendid service at Ramleh and Ludd. The towns of Jaffa, Gaza, Acre, and Beersheba are intact, but Safad and Tiberias were slightly affected. Casualties occurred in over twenty towns and villages, but no British casualties are reported.

The R.A.F. Unit stationed at Ramleh is No. 2 Armoured Car Company and the Unit at Ludd is the Palestine General Hospital, which is staffed and equipped by the R.A.F. Medical Service.



THE WINNERS OF THE KING'S CUP—1927.—Uxbridge R.A.F. Athletic Team, who won the King's Cup at the Championship Sports on June 25. In the middle of the front row is Group Capt. I. T. Courtney, C.B.E., Officer Commanding the R.A.F. Depot, Uxbridge. On his right is Flt. Lt. J. C. Barraclough, the Team Captain, and on his left is L-AC. S. Ferris, the Marathon winner for three successive years.



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THE GLOSTER GORAL.—A two-seat General Purposes all-metal biplane fitted with a 450 h.p. Bristol Jupiter VI engine. It is fitted with the usual armament and carries 1,000 lbs. of useful load.

Combined Training.

Referring to Air Co-operation in an article on Army Training on July 13, the Special Correspondent of *The Times* states :—

Ballachulish, near the historic scene of Glencoe, in the West of Scotland, has already been the scene this month of a combined exercise on a small scale between Navy, Army, and Air Force, following upon the trials on the coast of South Devon upon which I reported last year. A point that must necessarily emerge from this, as it has from all former exercises of the same sort, is that Air Forces have created a revolution in "amphibious" warfare. Fleet Air Arms cannot expect to compete with large forces of aeroplanes working from aerodromes on shore. Countries that are provided with these have little to fear from descents upon their coasts, unless they have oversea neighbours, potentially hostile, within the short radius of action of bombing squadrons.

The extraordinary panic in Australia, recently described in *The Times*, indicates on the one hand the great moral effect which aircraft may be expected to produce upon an inexperienced population, and on the other hand the need, in order to allay unnecessary fears, to keep the public constantly up to date in such matters.

Describing some of the broad features of the training of the Expeditionary Force during the forthcoming manœuvres, the writer says :

Experiments will also be made with the defence of troops from air attack, and here much progress has been made in organising a system, in a friendly country, for ensuring early information of the approach of hostile aircraft. This, of course, is more difficult to arrange in a hostile country, and here again we find that air forces favour the defending side in amphibious warfare, after, as well as before, an expeditionary force has landed. The defence against air attack of an area of assembly, after a landing, presents another difficult problem which awaits solution. So does the problem of defending troops so situated against raids by armoured cars and fast tanks during the critical time when units are being organised before advancing. As fighting machines, and the transport upon which all the existing arms depend, come to rely more and more upon mechanical movement, it is obvious that huge supplies of petrol will be required. If this petrol is kept in large dumps, vulnerable targets would be afforded for air attacks, which might thus succeed in arresting all movement by destroying its source.

The concluding remarks in the article again refer to air co-operation :—

There remains the important subject of air co-operation. One of the principal lessons of former years has been the need to keep the same air squadrons under the same officers, in co-operation with the same divisions. No. 2 Squadron, which was one of these, has gone to China, and *personnel* from other air co-operation squadrons has been sent to the Fleet air-arm units there. The Air Ministry has done its best. The First Division will have its air squadron (No. 13) up to the end of its brigade training in July. The Second Division will retain its own (No. 4) throughout. Only one (No. 4) co-operation squadron will therefore be with the exercises in Oxfordshire until the last few days, when another (No. 16) will join, but there will be some fighters and bombing machines. Meanwhile No. 16 Squadron will stay at Old Sarum to work with the Third Division and with the Mechanised Force at Tidworth.

The R.A.F. at Bisley.

Five past and present members of the R.F.C. and R.A.F. qualified for the King's Hundred at Bisley on July 15. Their scores were :—

Sjt. T. Crosswell, R.A.F., 300 *yards* 48, 500 *yards* 50, 600 *yards* 49—Total 147.

Flt. Lt. J. Pearce, R.A.F., 300 *yards* 50, 500 *yards* 49, 600 *yards* 47—Total 146.

Lt. G. F. Booth, late R.A.F., 300 *yards* 48, 500 *yards* 48, 600 *yards* 50—Total 146.

Lt. J. Elgood, late R.F.C., 300 *yards* 49, 500 *yards* 49, 600 *yards* 47—Total 145.

Lt. F. J. MacLennan, late R.A.F., 300 *yards* 49, 500 *yards* 48, 600 *yards* 46—Total 143.

After Tie Shoot :—Flg. Off. S. Wallingford, R.A.F., 300 *yards* 48, 500 *yards* 50, 600 *yards* 43—Total 141.

National Challenge Trophy :—Wing Cdr. R. J. Barton, R.A.F., 200 *yards* 33, 500 *yards* 33, 600 *yards* 31—Total 97.

The King's Prize was won on July 16 by Capt. C. H. Vernon, late R.A.M.C., and R.A.F.M.S., with a total of 292.

Flt. Lt. J. L. K. Pearce, R.A.F., was sixteenth, with 285, and Lt. F. J. MacLennan, late R.F.C., seventeenth, with 284. Lt. G. F. Booth, late R.A.F., scored 277, Flg. Off. S. Wallingford, R.A.F., 276, Sjt. T. Cresswell, R.A.F., 276, and Lt. J. Elgood, late R.F.C., 274.

Inter-Service Lawn Tennis.

Owing to the weather the Inter-Services Lawn Tennis Championships which should have been held on July 11 and 12 at Wimbledon was literally and in fact washed out. Friendly matches were played on the second day with the following results :—

Col. A. Berger and Major N. G. Holmes (Army) lost to Lieut.-Cmdr. P. F. Glover and Eng.-Lieut.-Cmdr. L. J. Carr (Navy) (4—6, 5—7); beat Flg. Off. C. F. Roupell and Wing Cmdr. H. J. F. Hunter (R.A.F.) (6—3, 6—3).

Capt. A. E. Browne and Capt. A. St. J. Mahony (Army) beat Lieut. A. W. Buzzard and Capt. R. H. P. West, R.M. (Navy) (6—2, 6—3); w.o., v. R.A.F.

Maj. L. C. Owen and Maj. R. G. Stone (Army) beat Surg. Lieut.-Cmdr. C. N. Radcliffe and Capt. A. Butt, R.M. (Navy) (8—6, 7—5); beat Sq. Ldr. F. J. Murphy and Flt. Lt. E. D H. Davies (R.A.F.) (6—4, 6—8, 6—1).

Glover and Carr (Navy) beat Roupell and Hunter (R.A.F.) (6—2, 6—1).

Buzzard and West, w.o., v. R.A.F.

Radcliffe and Butt (Navy) beat Murphy and Davies (R.A.F.) (6—4, 9—7).



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Gloster Goral. *"Flight" photograph*

The Gloster "Goral" is an entirely all-metal production and is fitted with a Bristol Jupiter Series VI engine. The machine has been designed to be used as a general purpose or light bomber type. It carries the usual armament, 84 gallons of petrol and a useful load of 1,000 lbs.

SASSOON CUP RACE, GLOSTER "GAMECOCK" 1st, 2nd & 3rd.

AIR AFFAIRS IN PARLIAMENT.

THE R.A.F. DISPLAY.

In the House of Commons on July 13, in reply to a question by Col. Day, the Secretary of State for Air said that the number of officers and airmen who took part in the Display, including both those who flew and those on duty with aeroplanes, had been 192 and 792 respectively. The number of machines had been 158. The cost of all special arrangements and facilities for spectators at the Display was met out of non-public funds. The ordinary running expenses of personnel and material employed in the Display was not segregated from the normal Service expenditure on training, of which it formed an integral part.

Replying to a further question by Col. Day, Sir Samuel Hoare said that public funds were not concerned with the proceeds of this Display. Figures were not yet available, but it was clear that the Display had resulted in a most satisfactory profit, and he hoped that Air Force charities would benefit very considerably.

[For the information of Col. Day and any other people who may imagine that the R.A.F. Display is run at a financial loss, the R.A.F. Memorial Fund in their Report for 1926 acknowledged the following sum as net proceeds of the R.A.F. Display in July, 1926:—£6,905 6s. 4d. Col. Day must have been thinking of the Inquisitive M.P.'s Flag-Day which was so unsuccessful.—C. M. MCA.]

VISITORS AT THE DISPLAY.

In the House of Commons on July 13 in reply to a question by Mr. Kirkwood, the Secretary of State for Air made the following statement:—"The annual Air Force Display is a public function and, so far as my information goes, 14 German officers were present among many other officers of foreign powers. These officers visited the Display on their own initiative, but were supplied with the complimentary tickets of admission which it is usual to give to any foreign officers who notify their intention of attending the Display. I understand that the five senior officers were of the rank of colonel."

LONDONT TO LONDENG.

Thirty-two Canadian and British-born pilots have responded to the offer of $25,000 (£5,000) made by a London (Ont.) Brewery for a non-stop flight between London (Ont.) and London (Eng.) this summer.

A conference has been held for the selection of the best man available, but the result is so far unknown.

Seven pilots have offered to fly alone, two have waived all claim to the prize money as they want to do the flight for the "Glory of Canada," and one pilot has deposited the sum of $2,000 (£400) to be forfeited if he fails.

The backers will buy the best machine available for the chosen pilot and have telegraphed to the Air Ministry to learn whether any British machine is available. The official answer is awaited anxiously by the Aircraft Industries of England and the United States. Meantime probably the Canadian Aircraft Industry will produce the desired aircraft.

A SCANDINAVIAN EXTENSION.

Deutsche Lufthansa has extended its Berlin—Copenhagen service to Oslo. The journey from Berlin to Stettin will be by land planes and thence the service will be by Dornier Wal flying-boats to Oslo with stops at Copenhagen and Gothenburg.

SPANISH AIR PORTS.

By a Spanish Royal Decree eight new air ports, complete with Customs and other international air travel facilities, will be established at Madrid, Seville, Valencia, Alicante, Malaga, Burgos, Galicia and the Canary Isles.

THE AMERICAN SCHNEIDER TROPHY ENTRY.

Very few details are available concerning the sole American entry for the Schneider Trophy Competition.

It is a biplane fitted with a 24-cylinder "X" type Packard engine. This engine is reputed to develop 1,200 h.p. at 2,700 r.p.m. and is one of four developed for the U.S. Navy by the Packard Motor Co.

Its bore and stroke are $5\frac{3}{8} \times 5$ inches and its weight is stated to be 1,402 lbs.

The machine, which is being built for Lieut. A. Williams, U.S.N., by the Kirkham Products Co., of Garden City, L.I., N.Y., is of all-wood construction, the wings, fuselage and control surfaces being made of spruce.

The cost of building the machine has been borne by a small syndicate of American sportsmen, and rumour says that Mr. Vanderbilt, for whom the Kirkham works built an all-duralumin air-yacht some three years ago, has found most of it.

ACROSS THE PACIFIC AGAIN.

On July 16-17 Mr. Ernest Smith and Mr. Emory Bronte flew from San Francisco to Molokai, the lepers' island, 60 miles from Honolulu, on a Travel Air monoplane (200 h.p. Wright Whirlwind engine). Their total flying time was 25 hours 36 mins.

When 500 miles from Honolulu a defective petrol gauge and the failure of their engine-driven petrol-pump caused them to think that they had run out of petrol, and they broadcast an S.O.S. call, but the pump resumed operations and they were able to reach the island of Molokai, where their tanks ran dry. They landed in some trees in preference to a marsh, and were later located by some U.S. Navy machines in which they were transported to Honolulu.

In an attempt to fly in the reverse direction Mr. Grace took off from Mana, Hawaii, at 05.24 hours on July 4, on a Cruzair monoplane (200 h.p. Wright Whirlwind engine), but what he claims as "rudder-trouble" forced him to return in less than an hour, and the machine was wrecked in landing in some bushes.

THE OUTSIDE LOOP.

In June, at McCook Field, Dayton, Ohio, Lieut. Doolittle, A.C., made an outside loop on a Curtiss P-1B standard U.S. Air Corps pursuit biplane.

He was equipped with special harness and from an altitude of 8,000 feet he described a 2,000 feet circle, the machine returning to its original altitude to flatten out. At the bottom of the loop the machine was travelling at 280 m.p.h. on its back.

On landing Mr. Doolittle's eyes were bloodshot and he had experienced considerable discomfort owing to blood being forced to his head.

This feat has since been repeated by Mr. W. H. McMullen, a Curtiss test pilot, in Callao, Chile, where he has been delivering a batch of Curtiss P-1Bs to the Chilean Army.

Mr. McMullen reported that the experience was rather alarming on account of the rush of blood to the head and the momentary loss of sight due to the sudden change of blood pressure.



THE SAUNDERS VALKYRIE.—The new three-engined flying-boat designed and built by S. E. Saunders Ltd., of East Cowes, Isle of Wight. The engines are Rolls-Royce Condors of 650 h.p. each.

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DETAIL DESIGN AND MAINTENANCE TROUBLES.

That British aircraft, particularly those engaged in the various branches of Civil Aviation, have a reputation for safety unequalled by the aircraft of any other nation, is now beyond question. Usually the entire credit for this undeniably satisfactory state of affairs is given to the skul of British Aircraft designers, and to the high standard of structural strength required and enforced by the British Air Ministry.

It may however be suggested that to some considerable extent this high degree of safety in British Civil Aviation is due to the conscientious work of the maintenance staffs employed by British operators generally. No amount of careful maintenance will suffice to make a dangerously weak aeroplane safe if the weakness is inherent in the structural design itself. British design does maintain a very high standard, and those responsible for this state of affairs deserve every credit for it.

At the same time observation of British aircraft in service suggests that British civil aircraft are if anything stronger than they need be in their main structure, but are quite frequently too flimsy in some of their details. Fittings which are subject to wear, and parts which as the result of racking stresses are apt to develop play, are particularly liable to this defect.

It will invariably be found that these parts have, in their original condition, very adequate strength factors for the direct loads which they are designed to bear. But sometimes they have inadequate bearings surfaces, or lack local stiffness, or possess some similar defect overlooked by the designer, which causes them to become a constant source of trouble to the maintenance staff, and of expense to the operator.

It is possible, for instance, to find hinges for elevators or rudders or ailerons which consist of a mild-steel pin ¼-inch in diameter passing through say a couple of thicknesses of 16 gauge steel plate acting as bearings. The breaking load of such a hinge under steady strain may be be much greater than any direct load which that hinge can be called upon to withstand, and the designer will proudly inform you that the hinge has a far higher factor of safety than has the structure to which it is attached. At the same time it may have totally inadequate bearing surfaces, and in service both pin and plates may wear rapidly and require frequent inspection and renewal.

When an inadequate fitting of this type is also inaccessible and practically impossible to inspect in position, it becomes necessary as a matter of routine to dismantle the parts concerned at frequent intervals. It has actually been found necessary to remove all the ailerons from certain civil machines about once a week in order to make certain that a dozen such small hinge-pins are keeping in decent condition.

Undercarriage and fuselage fittings are fairly frequent sources of offence to the maintenance engineer. Such fittings are designed to withstand certain loads specified by the Authorities, and they are almost invariably more than strong enough for these loads, provided that the said loads are imposed in the manner contemplated by the designer.

But as the result of landing and taxying on rough ground and so forth, fittings of this type are subjected to all sorts of incalculable strains and stresses. These will usually not cause direct failure of the fittings, but they may lead to the drawing of a bolt-hole, the bruising of a longeron, or the stretching of a wire, with the result that the fitting itself may move from its designed position, and so no longer be subject in normal service to the type of load which it has been designed to take.

A lug for instance becomes canted relatively to the strut attached to it, and takes the load from that strut, not in direct compression but in part in bending. The pin through that strut and lug, instead of bearing squarely on the surfaces provided, is pinched between the edges of those surfaces, and fails, as the result, under a load which applied as it was meant to be applied would have done no damage.

Such a failure of an undercarriage fitting may mean a complete "write off," which might have been avoided by a little foresight on the part of the designer, and possibly by the addition of an extra half-ounce to the weight of that particular fitting.

Actual failures of fittings are fortunately not frequent, usually signs of incipient distortion are detected by the maintenance staff before failure occurs, and such repairs or renewals as may be necessary are made.

The worst offenders in this respect are usually fittings of the type built-up from relatively thin steel sheets. Fittings of this type, properly designed, have many merits. They are usually fairly simple to manufacture, and light.

Unfortunately many fittings of this type are not as well designed as they might be. Ease of manufacture and simplicity of assembly in the maker's works are usually considered in the first place. But the fact that a fitting is simple to make and to put into place during the original assembly of the machine, by no means ensures that it will be easy to remove that fitting and replace it when the machine is completely erected.

From the maker's point of view it is enough if fittings can be put into place on say a longeron before the longeron is built into the fuselage. But when the maintenance engineer finds that he has to remove that longeron bodily in order to replace the fitting, he is apt to become a little heated in his criticism of the designer, particularly if the fitting itself is one apt to require renewal fairly frequently.

There seems to be a general tendency to assume that if the admittedly high standard of strength required by British regulations is provided the result will be a machine so strong and robust that it will not give trouble in normal service.

Within limits there is something to be said for this attitude, but experience does seem to indicate that it is time for aircraft designers to begin to look more closely into the question of detail design, and to give at least as much attention to the design of details with a view to making them firstly a good deal more robust and long-lived than they often are to-day, and secondly to making them as simple as possible to inspect and to maintain.

The unfortunate designer in this country has by no means an easy time in his attempts to satisfy the various regulations imposed on him by the Authorities in the interests of safety, and the desires of his customers in regard to first cost, load capacity, performance, etc. But he will be well advised to take this matter of detail design into account and set up for himself a higher standard than has been usual heretofore. For if he does not there is some reason to fear that the existing regulations as to strength and so forth will be extended and enlarged to cover detail design both as to strength, materials and types of construction.

W. H. S.



THE MIGHT OF POWER.—An impressive view of the Saunders Valkyrie (three 650 h.p. Rolls-Royce Condor engines) flying off the Isle of Wight.

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A Squadron of Vickers "Vernon" (Napier Lion Engines) Troop Carrier and Ambulance Aircraft in Iraq, where they are employed by the Royal Air Force in the maintenance of our Imperial Lines of Communication.

R.A.F. Photograph. Crown Copyright Reserved.



AIRMINDEDNESS IN HOLLAND.—Two Pander EC two-seater biplanes (60 h.p. Walter engines) which have been acquired by the Rotterdamsche Aero Club, the first Dutch Light Aeroplane Club. No photographs are yet available of the light Dutchmen who are to fly them.

THE DEATH OF MAJOR LORIGA.

On July 18, Major Loriga, of the Spanish Army Air Service, was killed at Cuatro Vientos aerodrome, Madrid, while making a test flight on the Albert monoplane (40 h.p. Salmson engine), on which M. Magnard flew from Rome to Madrid recently.

Major Loriga flew from Madrid to Manila, Philippine Islands, in April and May of last year, a distance of over 11,600 miles, on a Breguet XIX biplane. Previous to that, however, Major Loriga had done a considerable amount of testing of the early Cierva Autogiros and was actually the first pilot to make a cross-country flight on that type of machine, long before it came into the public eye in this country, some two years ago.

On behalf of all British aviators, Service and civilian, THE AEROPLANE tenders to the Spanish Army Air Service the deepest sympathy in the loss of so gallant a comrade and so distinguished an officer.

AUSTRALIAN WISDOM.

The Australian Government is evidently taking to heart the exhortations of the various people who have been trying to impress on it the fact that the Royal Australian Air Force is a cheaper and more effective first line of defence than run-away scout cruisers.

The latest news is that the Royal Australian Air Force has ordered from the Supermarine Aviation Works Ltd., of Southampton, a number of the famous Southampton flying-boats with Napier engines of the later series, which develop 500 h.p. apiece as against 450 h.p. of the earlier series.

The new Southamptons are five-seater reconnaissance flying-boats and, for the Australian Air Force, are equipped so as to be entirely self-contained for long cruises. Accommodation is provided for slinging hammocks in the hull, and all cooking arrangements are to be done on board so that the boats can be entirely independent of their bases during long voyages.

These will be the first twin-engined flying-boats taken over by the Royal Australian Air Force. And certainly no better choice could be made than the Southampton-Napier combination, which, despite freak flights by foreign products, has proved itself, under the strenuous conditions of regular R.A.F. service, to be one of the most reliable methods of transport in the World.

Some of the first boats, after arriving in Australia, will be flown to Singapore where they will meet the flight of R.A.F. Napier-Southamptons which are starting from England in October to fly to the Far East. After meeting at Singapore the two flights will fly to Australia.

AEROPLANE PHOTOGRAPHS.

Copies of THE AEROPLANE photographs may be obtained from the Editorial Office of THE AEROPLANE, 175, Piccadilly, W.1, 6 in. by 8 in., at 2s. 6d. each, post free.

THE ROTTERDAM LIGHT AEROPLANE CLUB.

A Light Aeroplane Club known as the Rotterdamsche Aero Club, has been formed in Rotterdam on the lines of the British clubs. Two Pander EC two-seat biplanes (60 h.p. Walter engines) have been acquired, and operations have begun at the Rotterdam Municipal aerodrome.

The President of the Club is Mr. C. Kolff, the Honorary Secretary Mr. de Niet, of 4, Aerssenstraat, The Hague, and the Instructor Mr. H. Schmit Crans, a Lieutenant of the Reserve. Several K.L.M. pilots have joined the Club.

The Pander EC biplane has already been described in THE AEROPLANE, and its general appearance is shown in the attached photograph showing the two Rotterdam Club machines awaiting delivery.

Their specification is as follows :—

Span	33 ft. 0 in.	Weight of luggage	55 lbs.
Length	20 ft. 2 in.	Weight loaded	1,280 lbs.
Height	8 ft. 8 in.	Wing loading	67 lbs./sq. ft.
Wing area	190 sq. ft.	Power loading	21.4 lbs./h.p.
Weight, empty	763 lbs.	Speed, max.	88 m.p.h.
Weight of fuel and oil for four hrs.	132 lbs.	Speed, min.	43.5 m.p.h.
Weight of pilot	165 lbs.	Climb to 3,000 ft.	5 mins.
Weight of passenger	165 lbs.	Ceiling (approx.)	14,000 ft.

The price of the Pander EC biplane is 10,350 Crowns (£863 approx.).

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending July 16.

Flying time 38 hr. 20 min. *Instructors.*—Messrs. F. G. M. Sparks and S. L. F. St. Barbe. *Instruction.*—Lord Carlow, L. C. Davey, Miss Fletcher, R. B. Tucker, J. H. Simon, W. L. M. O'Connor, R. G. Whalley, T. W. R. Martino, G. M. Randall, L. Rowson, L. Martin, Miss Wilson, M. D. McKenzie, G. C. Bonner, J. R. de Havilland, H. M. Samuelson, H. S. Greenland, A. Pollard, Dr. F. Cook, R. Drysdale Smith, A. S. Richardson, N. Watkins, G. Black, A. B. Ferguson, H. W. Marlow, J. E. Furlong. *Solo.*—Miss Spooner, Miss O'Brien, W. Roche Kelly, E. T. Symmons, N. J. Hulbert, O. J. Tapper, W. Hay, R. Sanders Clark, G. Black, A. G. Store, G. C. Bonner, R. Malcolm, D. H. P. Esler, L. J. C. Mitchell, Major K. M. Beaumont, K. V. Wright, G. M. Randall, L. C. Davey, G. H. Craig, A. H. M. Lees, C. H. Swan, G. Terrell. *Passengers.*—Mrs. Grainger, R. Base.

The Birmingham Pageant.—The Club is naturally very proud of the achievements of its representatives, Lady Bailey, N. H. Jones and Will Hay, in the race for the Air League Challenge Cup. They took the first three places and the Club becomes the first holder of the Challenge Trophy.

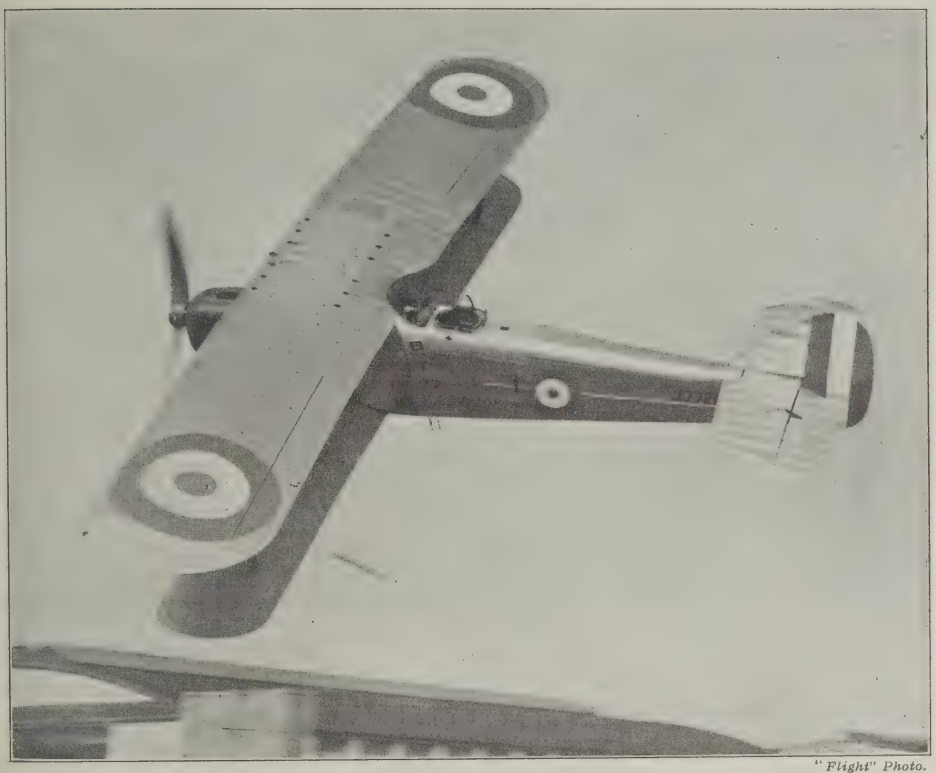
In addition to the Inter-Club Race, Lady Bailey won the Low Power Handicap.

The success of N. H. Jones on the A.N.E.C. was very popular, He was simply laden with Cups and was seen giving one back to the Lord Mayor at the presentation at Castle Bromwich, under the impression that he had taken too many.

As the London Aeroplane "scoop" will be referred to in other columns of this paper, it is not proposed to say any more except to congratulate Mr. F. G. M. Sparks on the fact that the three successful pilots were trained *ab initio* by him at the London Club.

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KINGSTON. BROOKLANDS.

A word of praise must be given to Major Gilbert Dennison, the Secretary of the Midland Aero Club. His organisation of the Racing Events was in every way perfect and more one cannot say.

Closing down for Holidays.—The Club will be closed down from Friday, July 29, until Monday, Aug. 8, in order to give the staff a short holiday. [Most of which will doubtless be expended on a 'busman's holiday at Nottingham.—C. G. G.]

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending July 16.

Flying time 38 hr. 25 min., made up as follows:—*Dual* 16 hr. 25 min. *Solo* 7 hr. 50 min. *Joy-ride and competition flying* 13 hr. 25 min. *Test flights* 45 min.

Dual instruction.—With Mr. Brown—Messrs. Rowley, Torres, Anderson, Heys, Caldecott, Harber, Hope, Agar, Hollindrake, Linaker, Meades, Tweedale, Riley, Allott, Watson, Parker, Gerrard, Shiers, Kinsley and Miss Baerlein. *With Mr. Cantrill*—Messrs. Hollindrake, Anderson, Scholfield and Gerrard. *With Mr. Scholes*—Mr. Caldecott. *Solos.*—Messrs. Williams, Rowley, Crosthwaite, Costa, Gattrell, Nelson, Twemlow, Ward, Lacayo, Chapman, Goodfellow, Agar, Cantrill, Scholes, Leeming. *Joy-rides.*—Messrs. Caldecott, Cunliffe, Bills, G. Bills, Cantrill, Riley, Dodge, Evans, Smith, Hollindrake, Leeming, Mrs. Dodge and the Misses Scott, Howarth and Shiers.

During the week Mr. Rowley made an excellent first solo, while Mr. Agar was sent solo again after a prolonged absence in the East.

Unfortunately one missed most of the Club pageant through absence at Castle Bromwich, but from all accounts it was the best organised and least successful that has yet been held by the Club. That is to say that the arrangements for dealing with the crowd were excellent, but the crowd unfortunately numbered very few thousands. It so happened that the event clashed with the visit of Suzanne Lenglen, the tennis match between Harvard and Yale, the international athletics contest and the biggest garden fête of the year, all much more accessible than the flying pageant.

Those who attended saw some excellent flying by R.A.F. pilots on Bristol Fighters of No. 5 F.T.S. as well as by Bert Hinkler, Dudley Watt and H. A. Brown on Avians. The landing competition for club pilots ended in a popular win for Mr. Costa, while the balloon-bursting competition ended in a run-away victory for the balloons!

One offers very sincere congratulations to Major Dennison and the Midland Aero Club upon the running of their amazingly successful and well-organised meeting at Castle Bromwich; also to the London Aeroplane Club upon their sweeping and well-deserved victories in the two races. One Sparks, a chronic bane of the handicapper's existence, must be feeling justifiably proud of his *ab initio* fledgelings.

New Club-house.—The new club-house extensions, made possible by the generosity of Sir Charles Wakefield, Sir William Letts and A. V. Roe and Co. Ltd., were formally opened at a luncheon held on Saturday and attended by a distinguished gathering, including Sir William Letts, Sir Sefton Brancker and H. W. Lee, Esq., one of our new vice-presidents, all three of whom were responsible for excellent speeches in their happiest vein. The announcement of the new subsdiy terms reminded one of the introduction of a new budget in the House; they were greeted with general approval and will no doubt be severely criticised as soon as the opposition has had time to think up a few arguments.

Stop Press.—One of our members, Mr H. Hollindrake, has just bought an Avro Avian and it is reported that the usually staid and decorous officers of the company may be seen skipping like lambs through the works and singing Hallelujahs in community. To be serious, one is very glad that the Club is at last to number a private owner among its members and that he has chosen such a good machine for his mount. The only serious drawback one knows of in the Avian is that it mostly seems to have to start from scratch in light aeroplane races, which means such a long wait on the starting line.

The Yorkshire Aeroplane Club Ltd.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]

Report for week ending July 16.

Flying Hours, 33 hr. 15 min. *Dual with Capt. Beck,* 13 hr. 15 min. *Solo,* 22 hr. *Tests,* 10 min.

Instruction.—Miss Watson, Miss Wilson, Capt. Milburn, Messrs. Fielden, Hd. Leetham, Yeomans, Brackenbury, Ellison, Williams, Hiley, Micklethwait, Crouther, Sproule, Fitton, Priestley, Lax, Brown, Wayman. *Solo.*—Capt. Milburn, Messrs. Brackenbury, Mann, Wilson, Wood, Lax. Clapham, Leetham, Lax, M.B., Fielden, Birch, Wayman, Loton.

On Tuesday, Messrs. Brackenbury and Thomson did their tests for the "A" Licence, which they executed with skilful precision. We had a welcome visit from Mr. O. P. Jones, en route to, and returning from, Edinburgh, on an A.D.C. D.H.9, on Wednesday. Thursday saw us come down a peg in that G-EBNN in the hands of Mr. H. Leetham "tapped itself against a fence" on the East side of the aerodrome. Engine, fuselage, and one top plane survived—the remainder—"Junk."

On Saturday we waited about in doubt till about 11 a.m. to be advised by the Powers concerned whether it was deemed fit to bring the Air League Challenge Cup Race to Sherburn or not. Apparently our luck was out, so we did our best to amuse the crowd with Joy-rides and Exhibition Flying, that of Mr. Clapham being highly appreciated. We were supported by the kind co-operation of Mr. Norman Blackburn's Avro, flown by Mr. Loton, and also that of Messrs Golds and Leeding, who are just launching out into the Joy-riding World.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending July 17.

Flying time, 30 hr. 5 min. *Instruction flying,* 12 hr. 55 min. *Solos,* 15 hr. *Joy-riding,* 1 hr. 5 min. *Test flights,* 1 hr. 5 min.

Sunday of this week proved to be a record day for this club, for flying time, the total for the day being 9 hr. 30 min. There was no flying on Wednesday or Thursday owing to heavy rain.

Instruction with Flt. Lt. Thomson.—Commander A. W. Hunt, Capt. H. T. Molyneux, Lieut.-Cmdr. Woodhouse, Vicomte J. de Sibour, Miss M. M. Home, Messrs. T. F. Brewster, J. Dunnings, B. Whittle, D. A. R. Cripps, M. K. Bayne, A. R. Mellor, W. P. Courtney,

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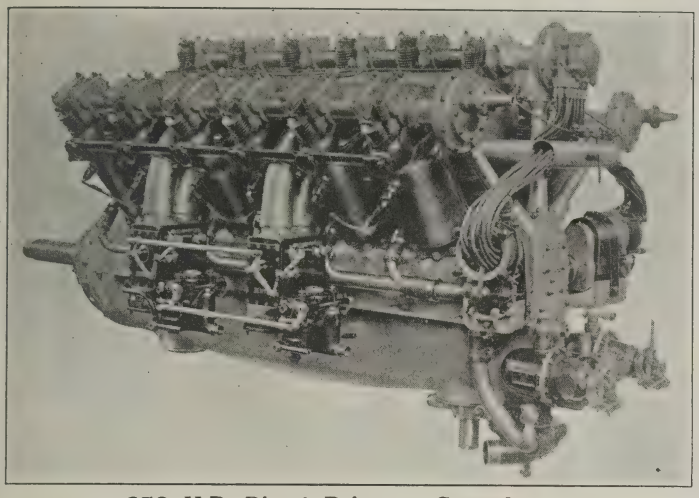
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1925.

Rome—Melbourne—Tokio—Rome. Colonel the Marchese de Pinedo. Savoia Flying Boat (450 h.p.). 54,000 kms. in 380 hours.

New York—Buenos Aires. MM. Duggan, Oliveiro, Campanelli. Savoia Flying Boat (450 h.p.).

1926.

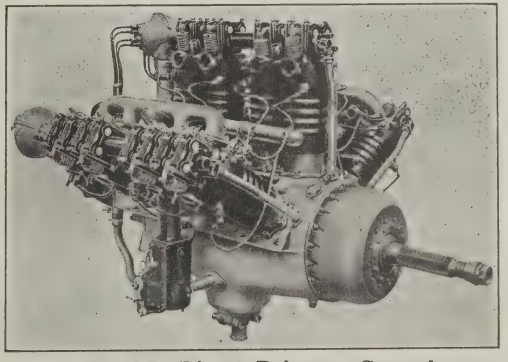
World's Height Record. M. Callizo, on a Bleriot Spad 61 (450 h.p.). 12,442 m.

Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris — Rome — Tunis — Casablanca — Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs 45 mins.



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1927.

Across Africa. Capt. De Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h.p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h.p.). 2,565 kms. in 17 hrs. 30 mins.

SOCIÉTÉ LORRAINE-DIETRICH, Argenteuil (Seine et Oise), France.

W. T. J. Stanford, Everett, Evans, Southcliffe, and Dickson. *Solos.*—Don Juan de la Cierva, Flg. Off. W. L. Dawson, K. P. L. Bowen, Lieut. P. D. Oliver, R.N., Flg. Off. Southey, Flt. Lt. Crawford, the Hon. H. R. Grosvenor, V. F. Nicholson, E. A. L. Parker, D. L. Rumble, A. N. Other, Shepherd, Everett, and E. T. Symmons,—our temporary member for the London Club. (Incidentally, we believe that Mr. Symmons is the first member of a flying club to become a temporary member of a club other than his own under the agreement arrived at during the last meeting of the Grand Council of Associated Flying Clubs.) *Joy-rides.*—Miss Liegh, Miss Willison, Mr. Grahame Gibbs, Mr. Liegh, Mr. Eburn, and Mr. H. Brady had joy-rides with Flt. Lt. Thomson; Mrs. Waterman, Mr. H. Brady, Mr. A. R. Mellor, Mr. Eburn, Mr. Gillet, Mr. Collins, with Mr. K. P. L. Bowen, who is now Joy-ride assistant to our instructor; Lieut. Oliver, R.N., took up Mr. Havers and Mr. Newman; Mr. E. T. Symmons took up Miss Symmons, Miss Potter and Mr. Loveday; Mr. Mair went up with A. N. Other.

Flt. Lt. Crawford flew up to Birmingham in one of our Moths on Saturday to represent this club at the Midland Pageant, but was told that he could not take part in the racing as he was not there in time to be verified. To have fulfilled this condition would have necessitated leaving Hamble on Friday afternoon, and would therefore have seriously interfered with instruction and club flying. A club possessing only two aeroplanes can ill afford to spare one machine at the week-end even for one day, so we would suggest to the Midland Club that they alter this condition for future events. The opinion of other clubs on this point would be interesting.

Mr. Mc. Cracken accompanied Flt. Lt. Crawford on this trip.—R. H. B.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending July 17.

Flying time 27 hr. 5 min. *Dual with Mr. Parkinson* 9 hr. 25 min. *"A" Pilots* 4 hr. 55 min. *Solo training* 10 hr. *Tests* 35 min. *Joy-rides with Mr. Parkinson* 2 hr. 10 min.

There was almost continual fog until the end of the week and on Thursday evening the engine of LX, the Club's only machine at present, owing to all engines being under overhaul, gave out. However, a new engine was received on Friday at midnight and the machine was flying again in the afternoon.

Instruction.—Messrs. Lawson (P. L.), Pargeter, Gibson, Fairless, Heaton, Maxwell, Dickinson, Thirlwell, D. Wilson. *"A" Pilots.*—Mr. R. N. Thompson with Mr. P. L. Lawson, Mr. Lander, and Miss Cochrane. Mr. C. Thompson with Mrs. Heslop, Miss Bulmer, Mr. Bulmer. Dr. Dixon with Mr. Dixon. Mr. W. Baxter Ellis with Mrs. Ellis. Mr. Phillips with Mr. Pargeter. *Solo.*—Mr. D. Wilson, Mrs. Heslop, Mr. Jewett, Mr. Pargeter, Mr. Elmes, and Mr. Turnbull.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending July 16.

Flying time 18 hr. 50 min. *Dual instruction.*—J. Edwards, R. Cazalet, Capt. J. E. Brewin, O. L. Richards, N. Crane, L. H. Lee, G. Aldridge. *Solo.*—H. J. Willis, S. H. Smith, R. L. Jackson, W. Swann, C. Fellowes, E. J. Brighton, E. R. King. *Passengers.*—Miss Brighton, A. B. Aston, A. Merryns.

On Sunday Messrs. S. H. Smith and C. W. Fellowes successfully passed the flying tests for their Aviators' Certificate.

A report of the Birmingham Air Pageant appears as an editorial article in this paper.

The Bristol and Wessex Aeroplane Club.

[Hon. Sec.: Col. Flemming, Filton Aerodrome, Bristol.]

Report for week ending July 16.

The Chairman, Mr. A. H. Downes-Shaw, has been busy in following up the interest and enthusiasm aroused in Bristol by the "Air Day" organised last month by our Club. It is now definitely announced that on the 28th of this month the Club will be in a position to start its real work, *i.e.*, providing economical facilities for flying and learning to fly to the citizens of Bristol and Wessex.

The Headquarters will be one of the largest sheds at Filton Aerodrome, on the far side from the main road, entrance to which will be made through the gate in Hays Lane.

Mr. Bartlett, a pilot of very considerable experience of flying in Australia as well as the United Kingdom, and of instructing in the R.A.F., has been engaged as Chief Instructor.

The Parnall Pixie and the Bristol Brownie so generously presented to the Club are being taken over early next week, and the De Havilland Aircraft Co. Ltd., have an order for one of the new X type Moths, delivery of which is promised for the 27th, so before August Bank Holiday, members who already have their certificates, will be able to hire the light machines for flights, and the unskilled members can book instructional periods in the Moth.

The Club has been very fortunate in obtaining the voluntary services of Col. Flemming as Hon. Secretary and Mr. Eric Hopper, 30, Cornwallis Crescent, Clifton, as Hon. Asst. Secretary.

Col. Flemming is well known throughout Somersetshire, and for some years has been very closely interested in the Boy Scout Movement, while the Club are also to be congratulated on having as their new Vice-Chairman Col. Douglas Robinson, whose wicket-keeping when captaining Gloucestershire so many of us have admired.

Although Club flying will be in progress by the end of this month, rumour has it that shortly after the holidays an official "Grand Opening" is being organised.

The membership rules have been slightly revised, the first class "Pilot Members" are those who wish to fly themselves or learn to fly, very cheap facilities for which are offered them on payment of £3 3s. entrance fee, and £3 3s. annual subscription. They will also be given two "friends" badges giving free access to the aerodrome on ordinary occasions, or to the private enclosure at Pageants, etc.

The next class is for "Members" who, although not intending to fly themselves, wish to support the movement, are interested in the development of Aviation, and perhaps would occasionally like to fly as passengers. They will pay no entrance fee, simply an Annual

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The third class is for "Junior Members," for those under 21 years' old, they pay 10s. 6d. entrance fee, and 10s. 6d. Annual Subscription, have full access to the aerodrome and can fly as passengers at the usual Club rates.

It is hoped that those who cannot assist the Club by actual donations will do so by becoming members. There are many worse ways of spending an afternoon than watching the machines, and it should be remembered that the Club will work on Saturday afternoons and Sundays.—R. A. H.

[Fancy Sunday flying in Bristol! The City's conscience must have become highly elastic since one lived there 27 years ago, when it was a grave moral crime to ride a bicycle on Sunday.—C. G. G.]

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending July 10.

Flying time 14 hr. 20 min. *Dual with Mr. Lines.*—Miss L. M. Spurrell, Miss P. V. Spurrell, Messrs. F. Gough, H. Mack, R. Moore, N. Lindley, R. Harmer, R. Marshall, A. Cooper, J. C. Cooper, E. Scott, J. Morse, L. Neave, T. Whitlock, F. Potter and Capt. A. Ramsay. *Solos.*—Mr. R. H. Moore, Sq. Ldr. Rea. *Joy-rides.*—Mr. G. Crosshill.

Great strides have been made during the past week, many new members having started on courses of instruction, among which the foremost are the Club's first lady pupils, viz., the Misses L. M. and P. V. Spurrell, who did exceptionally well and show great promise.

On Sunday evening last the Club also made a further forward movement, for Mr. Ralph H. Moore, of Great Yarmouth, is to be congratulated on having put up an exceptionally fine exhibition as the Club's first solo member. Those concerned hope that this is but a forerunner of many such exhibitions in the near future.

One of the members has already been dubbed "Flat Turn Tommy," much to the amusement of those in the know.

THE ROEHAMPTON AIR PARTY.

The Rochampton Club had its second annual Flying Day on Saturday, July 16, under the patronage of Sir Samuel Hoare and Sir Sefton Brancker and in conjunction with the Royal Aero Club.

The aviators who were at the party were:—The Duchess of Bedford with Mr. C. D. Barnard as pilot, Capt. Geoffrey de Havilland, Mr. Merton, Capt. Bailey (the prospective M.P. for the Forest of Dean), Mr. McClure, piloted by Mr. Tapper, and Sir John Rhodes, all on their own private Moths, together with Mr. Broad on one of the de Havilland Co.'s demonstration Moths and Mr. White on one of the de Havilland School's Moths, all with Cirrus engines.

At the beginning of the show Mr. Barnard and Mr. Broad gave an excellent display of acrobatics.

After that there was an obstacle race which caused much amusement. Each pilot acquired a woman partner. The woman ran 50 yards to a barrier, where she had to knock over with polo balls three bottles placed four or five yards in front of her. Then she had to run another 50 yards, pick up a tennis ball and give it to her pilot. Then the pilot had to run to his machine, fly from Roehampton round the Star and Garter and back to Rochampton. On arriving at the aerodrome he had to drop his tennis ball to his woman partner who had to run with it to the judges' box.

In the event Mr. White won, after he and Mr. Tapper had arrived over the ground actually together thus causing an amusing scramble between their partners to pick up the right numbered tennis ball.

There was also an event in which the pilots had to bomb a marked circle with tennis balls. Considerable amusement was caused by a Ford car disguised as an impossible acroplane labelled "The Hell-of-a-copter" which carecred round the ground emitting smoke and Verey lights from its funnel.

As none of the competing pilots were of the self-advertising variety there is a dearth of pictures of the events among the news agencies. And THE AEROPLANE's own photographer happened to be in Birmingham.

MORE GNATURAL HISTORY.

Mr. F. G. Miles, of the Gnat Aero Co., of Shoreham, writes:—

We have been to Wannock Glen, near Eastbourne, this week, joy-riding, but through landing on bad ground to avoid cows, Pashley had an undercarriage go and was unable to carry on. We took the two-seater over to his help complete with Ground Engineer, spare undercarriage, one wheel, diagonal struts, etc., and did the job on the field. By special request of the crowd, undaunted by the dismal spectacle of JE lurching on one wheel,, I took up a number of passengers on the two-seater.

The crowd commentary for this week, I append. (Here I think I must interpolate again; my letters seem mostly such. This time I just wanted to point out that I use "crowd" poetically, purely in view of its alliterativeness. Actually the crowd usually consists of the Oldest Inhabitant, his son, his son's wife and subsequent generations: Even so, circumstantial evidence indicates a dearth of anti-family-limitational literature in our otherwise well-read Sussex villages.) That's the end of the brackets for a moment.

To resume, the third or fourth generation of our audience remarked to fifty per cent. of the second or third—apropos of Pashley's latest landing—"Did it just go up?" Pashley heard, and, being ever a stickler for strict fact, he said, "No, it's just come down." Whereupon the hitherto disinterested mother, with pleasurable anticipation writ large upon her face, inquired eagerly: "Was anybody hurt? Where are they?" The lady ought to be an "Airplane" correspondent to the daily press.

And now, I suppose, the Weather—with a capital W.—We are having Weather now at Shoreham and when we have had some Weather . . . . we have some more WEATHER. And when I say WEATHER I mean Weather ad infinitum and to surfeition. "For the rain continueth; and the rain continueth; broad and deep continueth; great beyond our knowing." More rain than we want in fact. Damply yours,—F. G. M.

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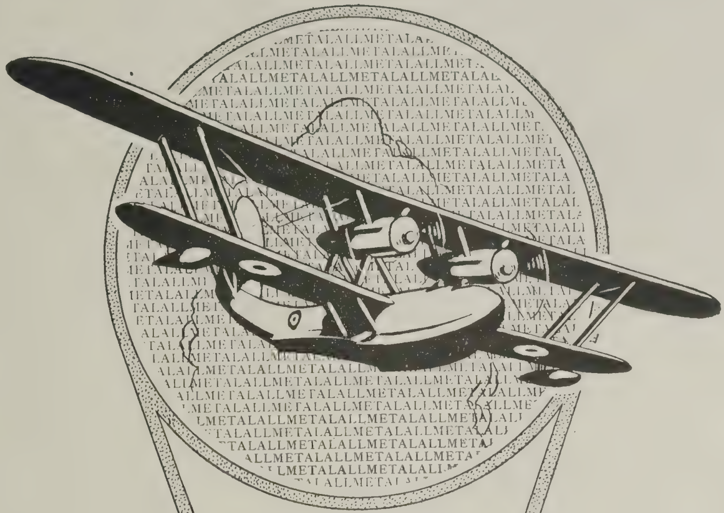
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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 28; Tuesday, 26; Wednesday, 28; Thursday, 22; Friday, 27; Saturday, 26; Sunday, 9.

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K.L.M. :

Amsterdam—Rotterdam—London : Machines 24, passengers 175, freight 3 tons 157 lbs.

DEUTSCHE LUFTHANSA AG. :

Berlin—London : Machines 14, passengers 83.

SABENA :

Brussels—London : Machines 13, passengers 74.

PRIVATE :

Machines 5, passengers 1.

Total number of trips by British Machines, 77, carrying 583 passengers. Foreign Machines, 90, carrying 528 passengers.

COMPARATIVE FIGURES.

Week ending July 17 :

Machines, 167; Passengers, 1,101; Crews, 320; Total personnel, 1,421.

Corresponding week, 1926 :

Machines, 169; Passengers, 1,199; Crews, 218; Total personnel, 1,427.

Corresponding week, 1925 :

Machines, 165; Passengers, 888; Crews, 218; Total Personnel, 1,106.

Corresponding week, 1924 :

Machines, 199; Passengers, 991; Crews, 250; Total Personnel, 1,241.

Corresponding week, 1923 :

Machines, 121; Passengers, 604; Crews, 194; Total personnel, 798.

Corresponding week, 1922 :

Machines, 152; Passengers, 411; Crews, 256; Total personnel, 667.

Corresponding week, 1921 :

Machines, 115; Passengers, 430; Crews, 137; Total personnel, 567.

Corresponding week, 1920 :

Machines, 106; Passengers, 219; Crews, 137; Total personnel, 356.

Croydon Notes.

A combination of summer traffic conditions with weather in which the average visibility over a great part of the Continental routes has been rather that proper to November than July has been the characteristic of the past week or so. The result has been an unusual amount of groping round the countryside for clear routes, which by no means adds to the peace of mind of those pilots whose machines have somewhat scanty reserves of petrol for their normal routes.

The Channel crossing seems to have been fairly uniformly and unpleasantly thick, particularly in the mornings, and at least twice this week this led to unpleasantly close shaves. An Imperial Airways machine and an Air Union Goliath on Thursday evaded each other by a margin more like that which one may expect to see at the R.A.F. Display than one desirable in commercial operations, and the new K.L.M. twin-Jupitered F.VIII was forced down so low that her wing-tip actually touched water when the sudden appearance of land ahead forced her to alter course a little abruptly. No damage was done fortunately.

Despite the general unpleasantness traffic has been heavy, and the demand for seats has often exceeded the supply.

Imperial Airways are still hopefully looking forward to entering into a reasonable use of the facilities which the new aerodrome buildings will provide. At present a number of machines not normally in service are stored in the new hangars, but any extended use of the new buildings is ruled out by the delay on the part of the Post Office to provide a telephone service and by the fact that the last portions of the new buildings to reach a habitable condition will be the administrative offices.

Better facilities for repair and maintenance work than are available on the Plough Lane side are urgently desired, and are in fact available in the new buildings, but they obviously cannot be used while the administrative staff has to be housed on the far side of the aerodrome, and even telephonic communication is denied between the two centres.—W. H. S.

THE I.Ae.E. IN AUSTRALASIA.

The Annual report of the Committee of the Australasian branch of the Institution of Aeronautical Engineers which has recently been issued is of a remarkably satisfactory nature.

Although the branch has no more than forty-three members the balance sheet for the year ending Dec. 31, 1926, shows a credit balance of over £70, an increase of some £30 for the year's work.

Seventeen new members were admitted during that year, and a new division of the Australasian branch was formed in New South Wales.

It would seem that the Australasian branch, small though it be, must be very much alive, and there can be very little doubt that this fact is largely due to the ability and enterprise of the Australian Committee and in particular to that of the Honorary Secretary, Capt. P. Roach-Pierson

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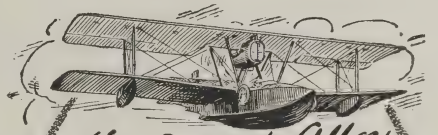
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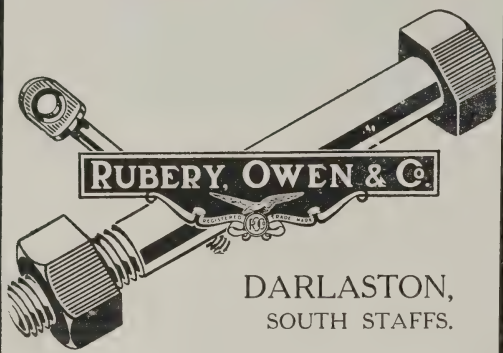
DEATHS.

PHILLIPS.—On July 12, missing, believed killed near Chang Chan Island, Hong Kong, as the result of a flying accident, Leonard William Hennell Phillips, Flg. Off., hon. Flt. Lt., R.A.F.

Mr. Phillips was the only son of Mr. and Mrs. C. E. Phillips, of 9, Endsleigh Gardens, Surbiton. He was educated at Malvern, and served with the Royal Navy during the War 1914-18. He joined the R.A.F. in 1924 and was given twelve months' seniority. He was posted to No. 2 F.T.S., Duxford, for flying training, and later to the R.A.F. Base, Leuchars. In June, 1925, he was appointed to *H.M.S. Hermes*, for Air Armament duties.

PROTHEROE SMITH.—On July 11, as the result of injuries sustained in a motor accident, Archie, Flg. Off., R.A.F., eldest son of Dr. and Mrs. Protheroe Smith, of Redditch, Worcestershire, aged 23.

Mr. Protheroe Smith entered the R.A.F. in Januray, 1924, with a short-service commission, and after a course of flying instruction at No. 2 F.T.S., Duxford, was posted to No. 17 (Fighter) Squadron, Upavon.



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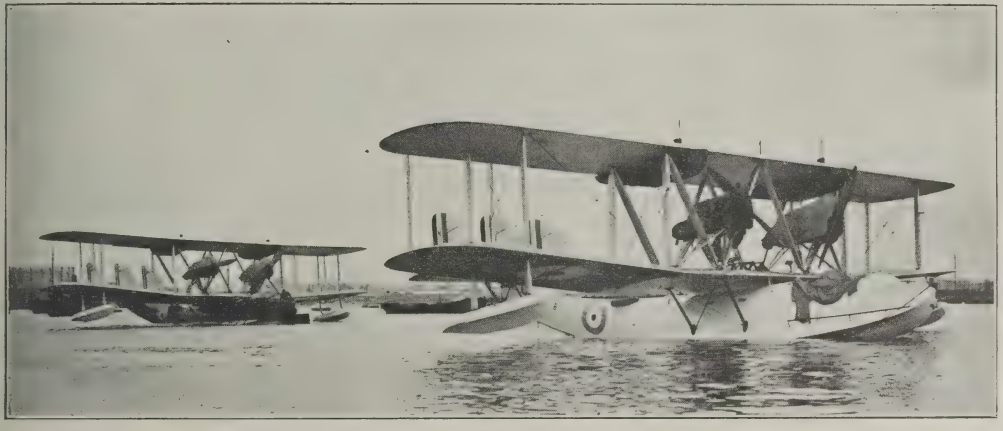
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VOL. XXXIII. No. 4.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON HANDICAPS.

On Saturday next, as ever is, the Royal Aero Club proposes to hold, at the Aerodrome of Hucknall Torkard by Nottingham, the Air Race for the King's Cup. Therefore this seems to be an opportune moment to say a few words about handicaps.

According to the Standard Dictionary a handicap is (A) a condition imposed to equalise the chances of competitors in a race, or (B) any disadvantage or hindrance making success in an undertaking more difficult.

On the face of it the two definitions seem to contradict one another. Which in fact they do, simply because in a race a handicap is either an advantage or a disadvantage, according to whether you look at it from the point of view of the long-start men or the back-markers.

At aerodromes and places where they aviate you can always hear, at any time when a race is toward, much argument on the subject of handicapping. Opinions then seem to be much divided as to the objects which the promoters of races wish to achieve in handicapping the competitors in a race. According to the competitors, as a rule, the chief object of the handicapper seems to be to prevent anybody from winning. But when every competitor asserts with oaths that he has been handicapped clean out of the race you can be sure that the handicapper has done his work well. If any competitor does not grumble you may be sure that he regards the race as a gift to himself.

The Objects of Handicapping.

But you will do well to remember that a race may be handicapped in many different ways to achieve one or other of several different objects. If the race be organised merely to entertain the public, then the object of the handicapper should be to produce a dead heat of all the competitors.

In framing such a handicap he has to take into consideration,—(*a*) the type of machine and its known performance figures; (*b*) the power of the engine and its known horsepower; (*c*) the known or rumoured ability of the makers, owners, mechanics and pilot of the machine and its engine to fake either the machine or engine to go faster than its known performance-figures; (*d*) the skill and experience of the pilot as they affect his ability to fly the shortest course and cut his corners; and (*e*) the state of the weather on the day of the race, as it affects the relative performances of slow and fast machines.

Handicaps in a race of this sort can only be allotted by a handicapper with a peculiarly intimate knowledge of the individual machines and pilots and owners. In this country, where one believes more air racing is done than in all the rest of the World put together, our Handicapper-in-chief, Mr. Goodman Crouch, has developed this particular kind of handicapping into a fine art—and Art always produces far better results than does any Science, exact or inexact.

Handicapping of that kind is just what is wanted to make air racing popular, for a close finish is the only thing which appeals to the sporting tastes of a crowd. It is in fact the kind of handicapping which is "imposed to equalise the chances of competitors in a race."

Useful Handicapping.

Unfortunately, from the point of view of improving the breed of aeroplanes and engines, the tastes of the crowd are not worth considering. And, with such good handicapping as we have, any old machine has just as good a chance of winning as has the best and newest aeroplane. So, actually, a handicap arranged so that the best machine or the best engine would win, would be more valuable to progress.

Apart from handicapping in the hopes of producing a dead heat of all the competitors, races *can* be handicapped on purpose in such a way as to give the best pilot the best chance of winning, or to give the best engine the best chance, or to give the best machine the best chance, or, for the matter of that, to give the best engine-tuner or the best machine-tuner, the best chance.

Handicaps with such objects can also best be done by the



AUTOGIRATING.—Mr. Bert Hinkler on the latest Auto-Giro (Armstrong-Siddeley Lynx engine), built by A. V. Roe and Co., Ltd.

individual judgment of an experienced handicapper, who would in such instances make out his handicaps on his judgment of all the variable factors except the one affecting the result required. That is to say, if he wanted to find out simply which was the best aeroplane he would handicap on the pilots' known ability and on the engines and the possibilities of their being faked, and would assume that all the machines were equal.

The King's Cup Handicap.

Apparently the object of the King's Cup Race is rather to find out who has the best luck and who is the cleverest at faking machines and engines.

The handicapping is being done on a formula which has already been explained in this paper. It takes into consideration only the span of the machine and the power of the engine. The skill of the pilots is not considered at all. The power of the engine is taken as the power given by that engine in its type-tests, and if any competitor can fake his engine to give more power, so much the better for him. Similarly anybody who can fake his machine to go faster is quite at liberty to do so.

For the benefit of the non-technical, one may say that roughly the formula works out so that the bigger the span of the machine in proportion to the alleged horse-power of the engine the longer the start the machine will get.

The fixed factor in the formula, or "constant," as the mathematicians call it, has no real scientific basis. It has simply been chosen as the result of a certain amount of not very comprehensive experience as being likely to bring the machines somewhere near one another towards the end of the race.

This formula was used in handicapping the machines for the Air League Challenge Cup at Birmingham on July 16, and the result was that those pilots who flew the best course finished precisely in the order in which they started. Which seems to prove that as a method of producing a really close finish the formula is useless.

Nevertheless, such is luck in a long race, like the 540 miles of the King's Cup Race, that what with breakdowns and the difference between good and bad piloting, and the luck of the weather, we are just as likely to see a close finish this year as we did last year.

Naturally, the best machine may not win. In fact it is hardly likely to do so. There is always one certainty about air racing in England. That is, that the machines which are probably the best, by virtue of having the most advanced design of aeroplanes or engine, are never finished long enough before a big race to be put through proper tests. In fact as a rule their construction is actually finished on the starting line.

This is a bad habit which the Aircraft Industry seems to have inherited from the Motor Trade. Some day somebody will actually finish a machine a month before a race and will score a runaway win simply because the machine will be absolutely tuned to the minute.

Nevertheless, as the list of prospective starters published last week shows, there are quite enough interesting machines in the race to provide, after the race is over, quite a good deal of information for those in search of knowledge.

Wanted: New Handicapping.

One of the best pilots in this country, who hardly ever wins a race simply because he is so good that he is generally handicapped out of it, suggested recently that handicapping ought to be arranged on some much more definite basis,—rather more like that of horse racing.

Not being a follower of the horses one is not very sure of the facts, but seemingly, apart from handicapping horses on their known merits as vehicles, certain allowances are made to the jockeys. An apprentice is allowed to carry so many pounds less weight, and after winning a certain number of races he loses his apprentice's allowance and has to compete with experienced jockeys on level terms.

Similarly, amateur jockeys have an amateur's allowance which they also lose after winning so many races. After that jockeys win or lose on their merits. And the better the jockey the better his chance of winning, which seems very right and proper.

One commends this method to the consideration of the Royal Aero Club. For undoubtedly under our present scheme the fact of being a first-class pilot is definitely a handicap, in that it is a disadvantage or hindrance making success more difficult.

Our National Handicaps.

From the subject of air racing, which after all is only a minor activity in the Great Game of Aviation, we may now switch over to some of the other handicaps which make success more difficult in any undertaking concerned with British aviation.

Air racing in itself ought to be very useful. If it were well supported by the sporting youth of this country, and by wealthy sportsmen of the class who spend vast sums on keeping race-horses which they hardly ever see, we might learn from air racing quite a lot about aeroplanes and engines which would be of great use to the Royal Air Force and to Commercial Aviation.

Even as things are, thanks very largely to success in air races, or at any rate to the publicity got by the illustrations and descriptions of air races, the de Havilland Company has within a couple of years built up a trade in Moths which is not approached by any other light aeroplane in the World. And, thanks to the competition of the Avian and the Bluebird and the Widgeon, also in air races, British light aeroplanes are far better known everywhere than are the light aeroplanes of any other country. But we cannot achieve salvation by light aeroplanes alone.

The Transport Handicap.

There will be very soon a vast market for light aeroplanes among private owners all over the World, but the market for transport machines will be still bigger. And we are handicapped by not being in a position even yet to compete for the air transport market of the World.

It is true that the D.H.50 with the good old Puma engine is quite the World's nicest aeroplane to fly, in the four-passenger-and-pilot class. But there is no getting away from the fact that the demand for transport machines in that class is in the direction of air-cooled engines. And we are handicapped in this country by not having an air-cooled engine in the class between 200 h.p. and 250 h.p.

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"Flight," May 26, 1927

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The fact that we have not got a 200 h.p. air-cooled engine handicaps our aircraft manufacturers, because, although they can offer foreign buyers machines of their own makes with foreign engines, such as the Wright Whirlwind, they cannot offer them with a British Airworthiness Certificate, which, from the foreign buyer's point of view has just the same value as an A.1 at Lloyd's Certificate has for a ship.

According to our Air Navigation regulations as they stand to-day, even if a British manufacturer built a machine with Whirlwind engines he could not test it outside a three-mile radius from his own aerodrome. Possibly if he came down to hard facts he might be able to get a temporary Airworthiness Certificate allowing him to test the machine. But the sale of the machine would still be handicapped by its not having a full British Certificate.

The Airworthiness Handicap.

As a matter of fact the whole of this Airworthiness Certificate business needs revising, for though the possession of a Certificate is an advantage in selling machines abroad the need for certificates for every experimental machine, whether built for the Air Force or for mere commerce, is almost always a disadvantage and hindrance.

The Stress Department itself gives no trouble. But it is itself handicapped by being compelled to work out calculations which are themselves not essential to the welfare of aircraft, and only cause delay in putting new machines into the air.

The Aeronautical Inspection Department gives no trouble. But it also has to waste time in doing work which is not really necessary.

In this connection the biggest handicap of all under which our unfortunate Aircraft Industry suffers is still the Royal Aircraft Establishment, just as it was during the War when it was called the Royal Aircraft Factory.

The Research Handicap.

If those Authorities at the Air Ministry who are now in charge of Supply and Research will do a certain amount of research on their own accounts into the methods of the R.A.E. they will find that things are going on very much as they did in the days when the Royal Aircraft Factory was imperilling the lives of their pilots in the various war areas.

Whenever anything new which looks at all good is submitted to the experts of the R.A.E., it is almost always held up, not merely for months but for years, because the particular department at the R.A.E. which has to judge that novelty is either experimenting with something along the same lines itself or else is inspired by the first sight of that novelty to start experimenting along the same lines.

The result is that, instead of the said novelty being judged on its merits, the Authorities are told to wait a minute because the R.A.E. is just going to produce something itself which will be a great deal better. And after waiting a year or two the R.A.E., just like the old R.A.F., still fails to deliver the goods.

For example, the R.A.E. has been experimenting for a very long time in an endeavour to produce something better than the Reid Turn Indicator, and has failed. Likewise it has been trying to produce a stall indicator, and has consistently crabbed the Savage-Bramson indicator in consequence.

The history of metal airscrews is if anything rather worse. The R.A.E. alone knows how much money it has spent on trying to make a satisfactory duralumin airscrew. But a good many people know how it has held up month after month the Airworthiness Certificates of duralumin airscrews of types which have been proved to be successful when made by other people.

Very much the same thing has happened in the matter of slot and aileron control. Only the other day a question, presumably inspired by the R.A.E., was asked in the House about the origin of combined slot and aileron controls. The answer which was provided for Sir Philip Sassoon to deliver to the House gave the credit for the invention to the National Physical Laboratory and the R.A.E.

The truth is that the most efficient form of slot and aileron control was actually patented by Handley Page Ltd., and it was patented because the method for which the R.A.E. takes credit was known to be of less value.—And now we are told that the R.A.E. type is to be fitted to the R.A.F.'s Bristol Fighters.

Meantime the general adoption of slot and aileron control in all Air Force machines is still hung up and people in the R.A.E. go on being killed because their machines are not controllable when stalled.

The Money Handicap.

More than once people in authority at the Air Ministry have said publicly that progress towards safety in flying is handicapped by the small amount of money available for experimental work. Nevertheless, the Air Ministry goes on spending its £300,000 or £400,000 a year on the R.A.E. which demonstrably produces no progress.

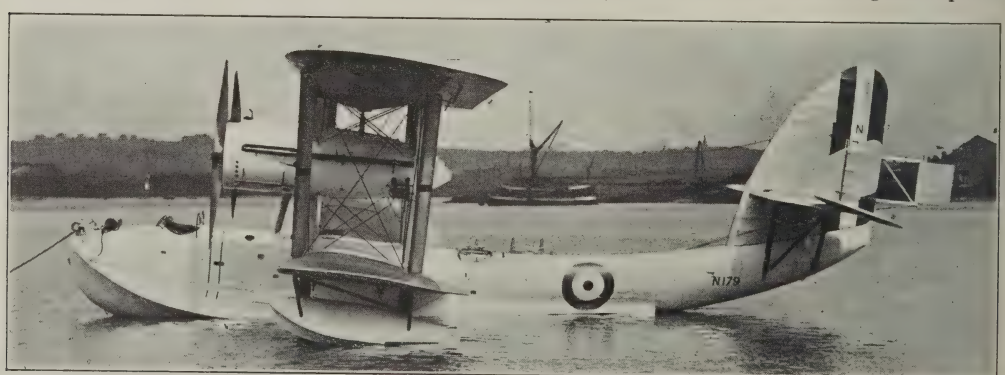
Nobody seems to have struck the idea of investigating closely how the R.A.E. does spend its money. A few days ago one came across one minor example of how the money is spent. This is an excellently produced book of about 130 pages lavishly illustrated with wonderful diagrams on The Spinning of Aeroplanes, by S. B. Gates, M.A., and L. W. Bryant, B.Sc., A.R.C.Sc., published at 6s. 6d. net by His Majesty's Stationery Office.

Nobody disputes the fact that Messrs. Gates and Bryant are scientists of the highest class and one sincerely hopes that they are paid at a rate commensurate with their academic distinction. But, taking in their pay for the time which they must have been at work on the job, and taking in the cost of producing the book, that publication must have run the British Taxpayer into something like £1,000 at least. And the number of copies of the book sold at the published price of 6s. 6d. is unlikely to bring in more than £100 or so.

Now of course everybody in aviation, from designers to pilots and even passengers, is intensely interested in the spinning of aeroplanes, but when one looks at this book one finds that it deals with the spinning of the B.E.2c with Raf 14 wing section, with the spinning of Bristol Fighters, and with the spinning of B.A.T. Bantams (a machine designed by Mr. Koolhoven at the end of the War and probably quite unknown to the present generation of pilots, although it was in its day judged by some of the finest pilots in the country as the best fighting machine ever produced, but for the fact that the only engine suitable for it refused to work for more than a couple of hours at a time).

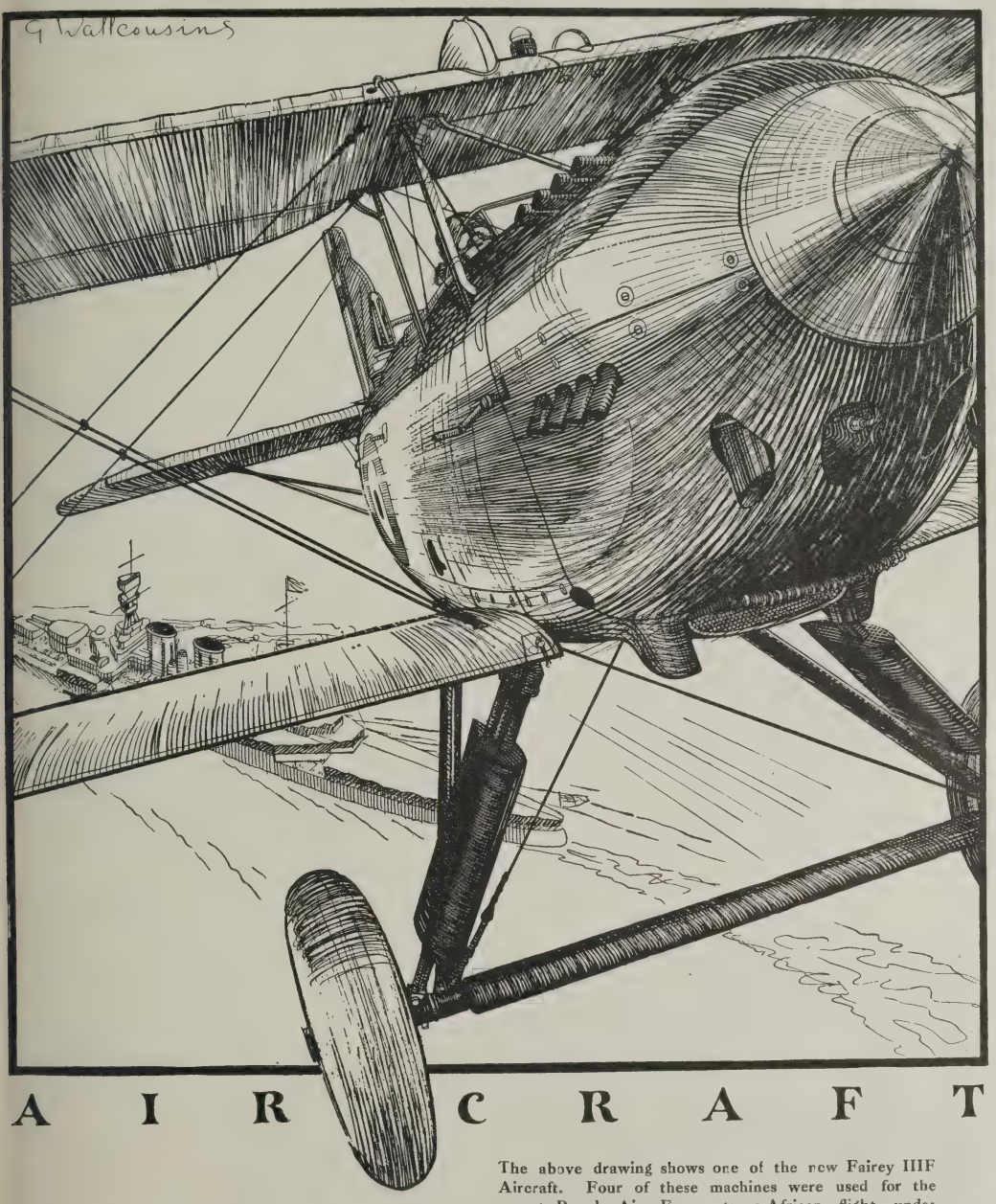
Other machines mentioned are the S.E.5a (which, with that inaccuracy so common among scientists, appears twice in the book as the S.E.5, which was a machine of quite a different type), the Sopwith Camel, the F.E.8 and the F.E.2b. There are also in the book some measurements of the auto-rotation of the Short Springbok, a machine which is now quite out of date, although it is extremely modern when judged by the modernity of most of the work done by the R.A.E.

The one picture in the book which shows a real aeroplane, as distinct from curves and diagrams, for some unexplained reason illustrates a Fairey Fawn, though that particular



MORE SEA-POWER.—The all-metal Short Singapore (two 670 h.p. Rolls-Royce Condor engines). The rudder-balance, of the Flettner type, is worth noting.

F A I R E Y



A I R C R A F T

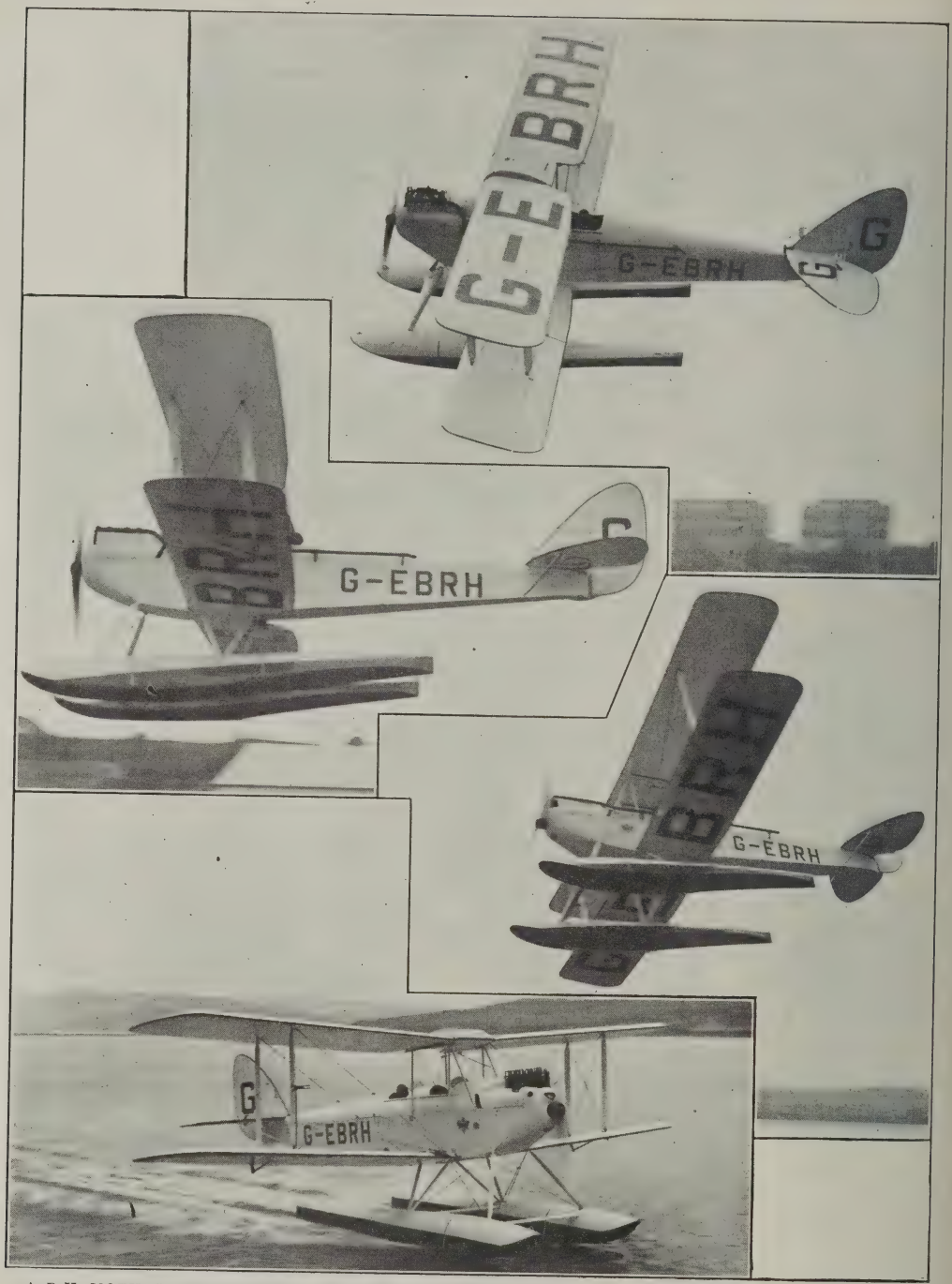
The above drawing shows one of the new Fairey IIIF Aircraft. Four of these machines were used for the recent Royal Air Force trans-African flight under Air-Commodore Samson, C.M.G., D.S.O., A.F.C.

An aggregate of over 45,000 miles was covered during this highly successful operation, which was undertaken by all four machines to a pre-arranged schedule.

THE FAIREY AVIATION COMPANY, LIMITED. :: :: HAYES, MIDDLESEX.

KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

A SEA-MOTH.



A D.H. MOTH (X TYPE) SEAPLANE.—The four views above show one of the new Moth X seaplanes, fitted with the A.D.C. Cirrus II engine and Short metal floats, being tested on the Medway at Rochester by Mr. Hubert Broad. This particular machine has been purchased by Mr. Maurice Burton and is the first privately-owned light-seaplane in England. In the bottom picture the machine is demonstrating the cleanliness on the water of the Short metal floats. Although the machine is taxying fast and is well up on its steps there is no apparent spray. The Moth X differs from the standard Moth in that the engine centre-line has been lowered and the wing gap and span slightly increased. Lowering the engine has improved the shape of the nose and improved the view forward from the front cockpit. A number of similar machines have been supplied to the Ontario Government Air Service for use on forest patrol work and another has been sold to Dominion Airways for a similar purpose in Western Canada.—(*Aeroplane photographs.*)

THE PRODUCT OF 2½ YEARS AND 1,000,000 MILES EXPERIENCE.



The new MOTH (x type).

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machine is never mentioned in the book, and in any case is itself obsolescent.

Naturally such abstruse calculations as those which appear in the book take some time to work out. But one can scarcely believe that they took somewhere between five and ten years, as the dates of the aeroplanes with which they deal would seem to indicate. Surely if such calculations are going to be of any use at all to the progress of aviation they ought to deal with modern aeroplanes and ought to be published in time to be of real use to the rising generation of aircraft designers.

As it is, one quite competent designer asserts that this particular book cannot in fact help anybody to design any aeroplane in the future. It is mere waste of public money to publish at this date elaborate calculations about machines which are entirely obsolete or very obsolescent.

One finds no fault with those distinguished gentlemen who made the calculations. Probably by this time they have worked out similar calculations on some of our most modern aeroplanes. One's quarrel is entirely with the people who spend money in producing an elaborate book which is absolutely out of date.

That money is badly needed for practical experiments such as will tend to decrease the number of deaths in the R.A.F. and will increase the efficiency of all our aeroplanes, civil as well as Service. One merely quotes this particular book as being one small example of the way in which the R.A.E wastes money and handicaps the progress of British Aviation.

If the High Authorities at the Air Ministry, not only those responsible for Supply and Research, but those whose job it is to promote the progress of Civil Aviation, will bestir themselves to remove the disadvantages and hindrances which make success in our undertakings more difficult, and will impose conditions more calculated to equalise our chances as competitors in the race for air power and air commerce, they will be the more worthy of the high trust which has been committed to them.—C. G. G.

SLOT CONTROL IN THE SERVICE.

At the Annual General Meeting of Handley Page Ltd., which will take place while this issue of The Aeroplane is going to press, it will be announced that the Air Ministry has directed that all Bristol Fighters of the Mark III type now in service in the R.A.F. are to be fitted with slot and aileron control.

The Mark III is the latest type of Bristol Fighter in use. A certain number of earlier models are at the moment in use, and these it appears are to be allowed to die out.

One hopes that this will not also apply to their pilots and passengers. As to the later types, these are recognised as being among the best aircraft in the World for their purpose, despite the original design having been produced in 1916.

The first Bristols crossed the line in France on Good Friday, 1917,—well over ten years ago—and as a type the Bristol has not been superseded, in spite of its Service load having been progressively increased year by year. Only with these increased loads has it given any trouble in the matter of control.

The Handley Page slot control dates back to 1921-22, and, but for delays and rival experiments at the Royal Aircraft Establishment, this latest development might well have been put into the Service four years ago.

Even now the type of control to be fitted is the R.A.E. design, which is a long way behind the latest Handley Page developments.

STRADDLING THE SEA.

"La Chevauchée des Mers." 287 pages, 22 photographs. By Jacques Mortane. (Librairie Baudinière.) To be had from The Aeroplane Book Department, 14, Bream's Buildings, E.C.4. 2s. 9d. post free.

Those who can read French or who wish to exercise themselves in the French language, can get a vast amount of entertainment out of "La Chevauchée des Mers," written by M. Jacques Mortane, who will be remembered by war-time readers of The Aeroplane as the writer of some of the most graphic, informative and amusing stories of war flying.

He has now given us, in his own inimitable style, the stories of the historic crossings of the sea from M. Blériot's first crossing of the Channel, by way of the first crossing of the Mediterranean by the late Roland Garros, right down to the great New York—Paris flight of Charles Lindbergh.

There are many things in the book which the younger generation of aviators do not know and the older people may have forgotten. M. Mortane gives full credit to the gallant failures of Hubert Latham before Blériot actually crossed the Channel. And as to the first attempt at crossing the Mediterranean, he recalls Lieut. Bague, who was lost at sea in the attempt;—his name has practically been forgotten and it is good that he should be remembered.

Much interest will be found in the personal narratives of a great many of these early heroes and in their remarks to M. Mortane himself,—who was always on the spot in those days when anything happened. Not less interesting are the opinions of some of the leading people in aviation immediately after the War on the possibility or impossibility of crossing the Atlantic.

There is a very good account of the first crossing of the Atlantic, by the U.S. Navy's flying-boat N.C.4. And mention is made of several projected attempts which most people have by now forgotten.

M. Mortane recalls a remark of Hawker's companion, "*Le flegmatique McKenzie Grieve,*" when somebody asked him whether he was not astonished that the Admiralty had not put ships at their disposition along the course as the U.S. Navy had done for the N.C. boats. Said Grieve,—"The English Fleet is made for the defence of the country and not for individuals."

The book is in a cheap edition printed on cheap paper. The photographs are so good that they were worthy of better reproduction. Nevertheless it is a very jolly little book and it certainly ought to be read, even by the most experienced of aeronautical people as well as the newcomers. The photographs, showing scenes and individuals concerned with the earlier flights, will recall emotioning moments to the old timers, and will educate the younger generation.—C. G. G.

THE FLIGHT TOWARDS AUSTRALIA.

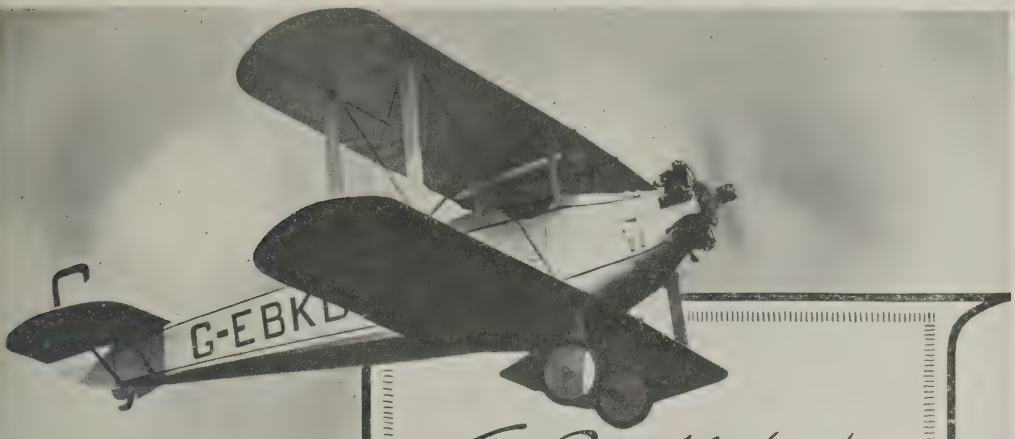
On July 24, Mr. Dennis Rooke, who is attempting to fly to Australia on a D.H. Moth (A.D.C. Cirrus engine), reached Allahabad from Cawnpore after a forced landing in the Middle Ganges district.

AEROPLANE PHOTOGRAPHS.

Copies of The Aeroplane photographs may be obtained from the Editorial Office of The Aeroplane, 175, Piccadilly, W.1, 6 in. by 8 in , at 2s. 6d. each, post free.



THE SHORT SINGAPORE.—An all-metal flying-boat fitted with two Rolls-Royce Condor engines, designed for long-distance patrol work. The Singapore has a high performance, flies and climbs on one engine with full load, and is surprisingly manœuvrable for so large a machine.



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The Blackburn BLUEBIRD is the result and embodiment of years of experience in the design and construction of all types and sizes of Land and Sea planes and Flying boats.

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THE BANK HOLIDAY PROGRAMME.

At the foot of this page will be found a table which one hopes will be useful to visitors to Hucknall Torkard (Nottingham) on Saturday next.

The machines are arranged in order of the times at which they will start. The numbers in black type are those which they will carry, in addition to their registration lettering.

The speeds in the last column are those which they ought to make according to the formula which was published last week. They are probably all wrong, but they will serve as well as any others as a basis on which to bet.

Following hereafter are the entries for the races to be held on Bank Holiday Monday, Aug. 1. (The number of each machine is that which it will carry while racing) :—

Event No. 1.—The Papplewick Stakes, £75. (*Low Power Handicap—engines not exceeding 1,500 c.c.—Open to all pilots*) :—

4. (Halton Aero Club.) Biplane (Bristol Cherub III.) Pilot, Flt. Lt. C. F. Le Poer Trench.

27. (Felixstowe Aero Club.) C.L.A.4 (Bristol Cherub III.) Pilot, Flt. Lt. N. Comper or W. L. Payne.

6. (Norman H. Jones.) A.N.E.C.II (Bristol Cherub III.) Pilot, Norman H. Jones.

30 (London Aeroplane Club.) Bristol Brownie (Bristol Cherub III.) Pilot, L. J. C. Mitchell.

33. (R.A.E. Aero Club.) Hawker Cygnet (Bristol Cherub III.) Pilot, Flt. Lt. R. L. Ragg.

34. (R.A.E. Aero Club.) D.H.53 (Bristol Cherub III.) Pilot, Flg. Off. C. Mackenzie-Richards.

Event No. 2.—Pelham Stakes, £100. (*Private Owners' Handicap—any type of aeroplane. Open to all pilots, not necessarily the owners*) :—

2. (Col. The Master of Sempill.) Blackburn Bluebird Mark II (Armstrong-Siddeley Genet.) Pilot, Col. Sempill.

10. ("Harold Brooklyn.") Westland Widgeon III (Armstrong-Siddeley Genet.) Pilot, "Harold Brooklyn."

6. (Norman H. Jones.) A.N.E.C.II (Bristol Cherub III.) Pilot, Norman H. Jones.

22. (Robert A. Bruce.) Westland Widgeon III (Cirrus Mk. II.) Pilot, W. J. McDonough.

18. (A. C. M. Jackaman.) D.H. Moth X (Cirrus Mk. II.) Pilot, A. C. M. Jackaman.

31. (Flg. Off. A. F. Scroggs.) Westland Wood-Pigeon (Anzani.) Pilot, Flg. Off. A. F. Scroggs.

26. (Sir Harold Bowden, Bart.) D.H. Moth X (Cirrus Mk. II.) Pilot, Bernard Martin.

32. (Capt. Geoffrey de Havilland.) D.H. Moth X (Cirrus Mk. II.) Pilot, Capt. G. de Havilland.

3. (The Hon. Lady Bailey.) D.H. Moth (Cirrus Mk. II.) Pilot, The Hon. Lady Bailey.

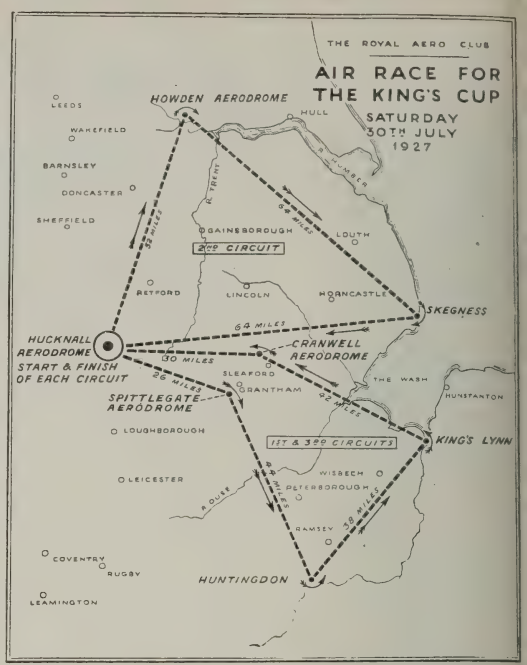
1. (Leslie Hamilton.) Martinsyde F.6 (Viper.) Pilot, Flg. Off. Nevill Vintcent, D.F.C.

36. (Major J. C. Savage.) S.E.5a (Viper.) Pilot, M. L. Bramson.

8. (Mrs. S. C. Eliott-Lynn.) Avro Avian Mk. II (Cirrus Mk. II.) Pilot Mrs. S. C. Eliott-Lynn.

9. (Mrs. S. C. Eliott-Lynn.) D.H. Moth (Cirrus Mk. I.) Pilot, Mrs. S. C. Eliott-Lynn.

37. (Flg. Off. James R. Addams.) Westland Widgeon II (Armstrong-Siddeley Genet.) Pilot, Flg. Off. J. R. Addams.



Event No. 3.—Society of British Aircraft Constructors' Challenge Cup.—(*Machines belonging to Associated Clubs piloted by Club members*) :—

4. (Halton Aero Club.) Biplane (Bristol Cherub III.) Pilot, Flt. Lt. C. F. Le Poer Trench.

27. (Felixstowe Aero Club.) C.L.A.4 (Bristol Cherub III.) Pilot, Flt. Lt. N. Comper or W. L. Payne.

28. (London Aeroplane Club.) D.H. Moth (Cirrus Mk. I.) Pilot, Capt. H. Spooner.

35. (R.A.E. Aero Club.) Avro Avian (Cirrus Mk. II.) Pilot, Flg. Off. D. W. F. Bonham-Carter.

Event No. 4.—Hucknall Stakes, £150. (*High Power Handicap—Any engine not less than 200 h.p.*) :—

11. (A. V. Roe and Co.) Avro Avenger (Napier Lion Mk. VIII). Pilot, Flt. Lt. S. N. Pope.

KING'S CUP NAMES AND FIGURES.

Starting Time.	Racing No.	Aeroplane.	Engine.	Pilot.	H'cap.	Entrant.	H'cap Speed.
H. M. S.					H. M. S.		M.P.H.
8—0—0	**6**	ANEC II	Cherub III	M. W. Piercey	4—57—48	N. H. Jones	65.6
8—34—13	**4**	H.A.C. I	Cherub III	F/Lt. Le Poer Trench	4—23—35	W/Cdr. Chas. Breese (Halton Aero Club)	70.3
8—48—5	**27**	C.L.A. IV	Cherub III	F/Lt. N. Comper	4—9—43	F/Lt. N. Comper (Felixstowe Aero Club)	72.4
9—32—39	**5**	Moth	Cirrus I	W. L. Hope	3—25—9	W. L. Hope	80.6
9—41—23	**9**	Moth	Cirrus I	A. B. H. Youell	2—16—25	P. H. Foster	82.4
9—55—59	**15**	Moth X	Cirrus II	A. S. Butler	3—1—49	A. S. Butler	85.5
	18	Moth X	Cirrus II	F. G. M. Sparks	3—1—49	S. L. F. St. Barbe	85.5
	26	Moth X	Cirrus II	B. Martin	3—1—49	Sir Harold Bowden, Bt.	85.5
10—4—9	**12**	Avian	Cirrus II	D. A. N. Watt	2—53—39	A. V. Roe	87.4
10—4—34	**10**	Widgeon III	Genet	"H. Brooklyn"	2—53—14	"H. Brooklyn"	87.5
10—8—18	**2**	Bluebird II	Genet	Col. Sempill	2—49—30	Col. Sempill	88.3
10—11—58	**3**	Moth	Cirrus II	Lady Bailey	2—45—50	Lady Bailey	89.2
10—16—20	**22**	Widgeon III	Cirrus II	W. J. McDonough	2—41—28	R. A. Bruce	90.3
10—20—14	**8**	Avian II	Cirrus II	Mrs. Eliott-Lynn	2—37—34	A. Fildes	91.3
	23	Avian	Cirrus II	H. A. Brown	2—37—34	J. F. Leeming	91.3
10—33—12	**13**	Avian	Alpha II	B. Hinkler	2—24—36	Sir William Letts	94.6
10—37—5	**14**	Avian	Cirrus II	—	2—20—43	Sir William Letts	95.7
11—21—51	**24**	D.H.9	Nimbus	W. G. R. Hinchliffe	1—33—57	Lt./Col. Barrett-Lennard	110.5
11—33—41	**19**	Vespa	Jupiter VI	S/Lr. H. J. Payn	1—24—7	Sir A. Trevor Dawson, Bt.	115.2
11—40—17	**7**	Horsley	Condor III	F/Lt. P. W. S. Bulman	1—17—31	T. O. M. Sopwith	117.8
11—43—55	**1**	Martinsyde F.6	Viper	F/O. N. Vintcent	1—13—53	L. Hamilton	119.5
11—50—29	**16**	Tiger Moth	Cirrus II	H. S. Broad	1—7—19	Sir Charles Wakefield	122.7
11—54—16	**20**	Vixen III	Lion V	E. R. C. Scholefield	1—3—32	Douglas Vickers	124.0
12—9—51	**25**	Boreas Martinsyde	Nimbus	S/Lr. H. W. G. Jones	0—47—57	Lt./Col. M. O. Darby	132.2
12—35—16	**21**	Badminton	Jupiter VI	F. L. Barnard	0—22—32	Sir G. Stanley White, Bt.	147.5
12—57—48	**11**	Avenger	Lion VIII	F/Lt. S. L. Pope	Scratch	Sir Kenneth Crossley, Bt.	164.5

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ROLLS-ROYCE AERO ENGINES in a Vickers-Vimy aeroplane flew from **ENGLAND** *to* **SOUTH AFRICA** *in* 1920.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew across the **SOUTH ATLANTIC** *in* 1922.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew **round AUSTRALIA** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Fokker monoplane flew from **HOLLAND** *to the* **EAST INDIES** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

ROLLS-ROYCE AERO ENGINES in Dornier-Wal flying boats flew from **MOROCCO** *to* **SPANISH WEST AFRICA** *in* 1926.

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24. (Lieut.-Col. J. Barrett-Lennard.) D.H.9 Nimbus (Nimbus Mk. I). Pilot, W. G. R. Hinchliffe.
25. (Lieut.-Col. M. O. Darby.) Boreas Nimbus-Martinsyde (Nimbus Mk. I). Pilot, Sq. Ldr. Hubert W. G. Jones, M.C.
1. (Leslie Hamilton.) Martinsyde F.6 (Viper). Pilot, Flg. Off. Nevill Vintcent, D.F.C.
36. (Major J. C. Savage.) S.E.5a (Viper). Pilot, M. L. Bramson.

EVENT No. 5.—LADIES' PURSE—*Any Woman Pilot*:

28. (London Aeroplane Club.) D.H. Moth (Cirrus Mk. I). Pilot, Miss S. O'Brien.
29. (London Aeroplane Club.) D.H. Moth (Cirrus Mk. I). Pilot, Miss S. O'Brien.
3. (The Hon. Lady Bailey.) D.H. Moth (Cirrus Mk. II). Pilot, The Hon Lady Bailey.
8. (Mrs. S. C. Eliott-Lynn.) Avro Avian Mk. II (Cirrus Mk. II). Pilot, Mrs. S. C. Eliott-Lynn.
9. (Mrs. S. C. Eliott-Lynn.) D.H. Moth (Cirrus Mk. I). Pilot, Mrs. S. C. Eliott-Lynn.

EVENT No. 6.—THE GROSVENOR CHALLENGE CUP:—

2. (Col. The Master of Sempill.) Blackburn Bluebird Mk. II (Armstrong-Siddeley Genet). Pilot, Col. Sempill.
12. (A. V. Roe.) Avro Avian (Cirrus Mk. II). Pilot, Dudley Watt.
13. (Sir William M. Letts.) Avro Alpha Avian (Alpha Mk. II). Pilot, Bert Hinkler.
10. ("Harold Brooklyn.") Westland Widgeon III (Armstrong-Siddeley Genet). Pilot, "Harold Brooklyn."
22. (Robert A. Bruce.) Westland Widgeon III (Cirrus Mk. II). Pilot, W. J. McDonough.
28. (Capt. H. Spooner.) D.H. Moth (Cirrus Mk. I). Pilot, Capt. H. Spooner.
29. (O. J. Tapper.) D.H. Moth (Cirrus Mk. I). Pilot, O. J. Tapper.
26. (Sir Harold Bowden, Bart.) D.H. Moth X (Cirrus Mk. II). Pilot, Bernard Martin.
32. (Capt. Geoffrey de Havilland.) D.H. Moth X (Cirrus Mk. II). Pilot, Capt. G. de Havilland.
3. (The Hon. Lady Bailey.) D. H. Moth (Cirrus Mk. II). Pilot, The Hon. Lady Bailey.
35. (P. N. G. Peters.) Avro Avian (Cirrus Mk. II). Pilot, Flg. Off. D. W. F. Bonham-Carter.
8. (Mrs. S. C. Eliott-Lynn.) Avro Avian Mk. II (Cirrus Mk. II). Pilot, Mrs. S. C. Eliott-Lynn.
9. (Mrs. S. C. Eliott-Lynn.) D.H. Moth (Cirrus Mk. I). Pilot, Mrs. S. C. Eliott-Lynn.
37. (Flg. Off. James R. Addams.) Westland Widgeon II (Armstrong-Siddeley Genet). Pilot, Flg. Off. J. R. Addams.

LIGHT AEROPLANE SPEEDS AT BIRMINGHAM.

In the following table are set forth the speeds attained by all the machines which finished in any heat of any event at the Birmingham Pageant. The first column of speeds is that attained in the preliminary heat of the Low Power Handicap, the second that in the final heat. This race was over a course of 12½ miles with five turning points.

The third column gives the speeds attained in the race for the Air League Challenge Cup over an out and home course of 116 miles.

It is noticeable that there is quite a distinct difference between the speeds of different machines of the same type, that the speeds in the preliminary and final heats for the short race are very uniform for each individual machine, and that the speeds reached on the long course are uniformly from 2 to 3 m.p.h. higher than those of the same machine on the short course.

Machine Type	Reg. Mark	L. P. Handicap		Air League Cup
	G-EB:—	Heat M.P.H.	Final M.P.H.	M.P.H.
A.N.E.C. II (Cherub)	JO	70.9	—	72.8
Avian (Cirrus II) ..	RR	89.46	—	92.4
,, ,,	QN	—	—	101
,, ,,	OV	93.55	—	—
Moth (Cirrus I) ...	MF	86.53	86.53	88.8
,, ,,	LT	79.08	78.67	—
,, ,,	LW	79.50	80.07	84.8
Moth (Cirrus II) ...	PU	92.97	92.02	96.4
Widgeon III (C'rus II)	RL	93 94	94.93	—

NAVIGATIONAL WIRELESS.

"Navigational Wireless," by S. H. Long, D.Sc., M.I.E.E. London: Chapman and Hall. 12s. 6d. net.

The intention of the author in this book, as explained in his preface, is to provide in one volume an outline of the whole subject of navigation by the use of wireless direction-finding in order that those who are already competent navigators shall be enabled to understand the elementary technical aspects of the wireless part of the business, and those who are already acquainted with the wireless apparatus and its peculiarities shall appreciate the navigational side.

Necessarily the attainment of this professed object produces also a book which will serve as a guide to the whole business of D.F. navigation. The book deals almost exclusively with marine navigation. Some few references are to be found in it to aircraft direction-finding installations, but these are exceedingly brief.

The work should, however, have a constant value to all those who wish to become acquainted with the general principle of navigation by wireless even if their interest is limited to the special case of aircraft, for the general principles are the same for both marine and aircraft.

THE COST OF AIRSHIPS.

The first report by the Select Committee on Estimates, which was issued by H.M. Stationery Office on July 19, includes a criticism of the Air Ministry's expenditure on the airship R.101, now under construction at Cardington. Extracts from the Report state:—

One of these (R.100) is being built under contract for £350,000 for delivery by Sept. 30, 1927. The contract price of £350,000 includes £50,000 as a contribution to the firm towards capital expenditure. The other airship (R.101) is being built by the Ministry at Cardington.

In July, 1924, when the present scheme was initiated, this station was valued at £302,000, and was therefore a place of some substance. It was stated to the Committee in evidence that the construction of the ship would cost something like £400,000. To this must be added £100,000 for the enlargement of the old shed at Cardington, and £50,000 for the construction of a mooring mast.

A further sum of £145,000 is also being expended on the construction of a new shed. This shed is required for the housing of the airship being built under contract, when completed, and expenditure on it can be excluded from any comparison of the cost of the two ships.

The Report continues:—Even if the £50,000 expended on the mooring mast is also excluded as being debatable, your Committee find that the ship being built by the Ministry will cost at least £150,000 more than the one being built under contract.

Your Committee understand the two ships are of the same size and that whilst the one being built by contract is being made of duralumin, which is dearer than stainless steel, stainless steel with which the other ship is being partly built is more expensive to work, and this fact counterbalances to some extent the smaller prime cost.



THE PENALTY OF GREATNESS.—Mr. C. R. Fairey (left) and M. Louis Bréguêt, each the leading manufacturer of General Purpose Service aeroplanes in his respective country, snapshotted in the social whirl of Deauville Regatta.

B T-H

Aeroplane

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were fitted to the machines which achieved

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1st Place in Grosvenor Cup Race, 1924, 1925, 1926.

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"Bristol Jupiter" Endurance Test (25,078 miles).

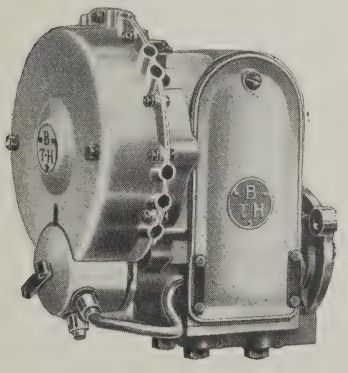
World's Speed Record for Seaplanes, 1925

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1st Place King's Cup Handicap, in 1926.

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THE ROYAL AIR FORCE.

The London Gazette.

July 19.

General Duties Branch.—Flg. Off. F. Woolley, D.F.C., is granted a perm. comn. in this rank (July 1).

The following are granted S.S. comns. as Plt. Offs. on probation, with effect from and with seniority of July 1:—C. P. Barker, A. S. Barry, E. S. Bateman, M. G. Bircham, R. W. P. Collings, T. J. Davidson, D. Dickson, H. W. Duffey, F. J. Dunne, M. V. Dyas, F. G. Ferrier, D. G. P. Fitzpatrick, N. H. Fresson, M. G. R. Harris, T. L. Harrison, A. T. C. Hazledine, A. D. Jones, M. R. Kelly, P. B. Manning, L. W. W. Modley, H. A. U. Monro, W. R. Monro Higgs, A. L. T. Naish, B. D. Nicholas, L. S. Rollings, A. M. Stevens, J. W. Stevens, D. I. Stewart, R. W. A. Stroud, W. P. J. Thomson, N. E. Whalley.

The following Plt. Offs. are promoted to the rank of Flg. Off.:—J. E. Bolt (Apr. 12), R. H. Winn (May 28), H. D. Spreckley (June 16).

Flt. Lt. G. H. Reid, D.F.C., is placed on the retired list in that rank on account of ill-health, and is granted the honorary rank of Sq. Ldr. (June 21); Sq. Ldr. T. F. Hazell, D.S.O., M.C., D.F.C., is placed on the retired list at his own request (July 20).

The following Flg. Offs. are transferred to the Reserve:—Class A.—A. A. B. Chipper (July 20). Class C.—M. C. Dudding (July 15); E. H. Alliott (July 18). Plt. Off. C. F. Ashton resigns his S.S. comn. (July 20); Flg. Off. W. W. Bradford relinquishes his S.S. comn. on account of ill-health and is permitted to retain his rank (June 23) (substituted for notification in the *Gazette* of July 5).

Stores Branch.—Flt. Lt. D. Barron is placed on the retired list on account of ill-health (July 21); Flg. Off. H. A. Lotherington is transferred to the Reserve, Class B (July 19).

Accountant Branch.—The following Flg. Offs. are granted perm. comns. (July 20):—H. E. Cardwell, A.F.C.; J. M. Hopkins.

Medical Branch.—Temp. Lt. H. J. Eagleson (General List, Army, Dental Surgeon) is granted a temp. comn. as a Flg. Off. on attachment to the R.A.F. (July 13). He will continue to receive emoluments from Army sources; Sq. Ldr. J. R. Crolius, M.B., is placed on the retired list at his own request (July 15).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—P. G. Thomson (July 1); N. N. Birks (July 4). A. B. Mitchell is granted a comn. in the Special Reserve as a Plt. Off. on probation (July 1); Flg. Off. K. W. Brewster, M.C., is transferred from Class C to Class A (May 6) (the notification in the *Gazette* of Nov. 23, 1926, concerning this officer, is cancelled). The following are transferred from Class A to Class C:—Flt. Lt. C. F. Briggs (July 14); Flt. Lt. R. A. Vosper (July 14); Flg. Off. G. F. Mackay (July 14); Flg. Off. H. B. Williams (July 19).

The following Flg. Offs. relinquish their comns. on completion of service:—A. Duguid, A.F.C. (June 24); C. G. Ferrell (July 19); G. N. Wilton (July 24). The comns. of the following Plt. Offs. on probation are terminated on cessation of duty:—E. N. Parker (June 17); D. R. Fremantle (June 28).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Off.:—No. 602 City of Glasgow (Bombing) Sqdn.—Douglas Douglas-Hamilton, Marquess of Douglas and Clydesdale (July 4).

Appointments.

Week ending July 25.

General Duties Branch.—Flight Lieutenants D. S. Don, to No. 24 Sqdn., Northolt, 18/7. G. R. O'Sullivan, to R.A.F. Training Base, Leuchars, 1/8.

Flying Officers V. B. Bennett, A. King-Lewis and N. Carter, to Home Aircraft Depot, Henlow, 20/6. B. N. Murgatroyd, to R.A.F. Depot, Uxbridge, 11/6. C. I. A. Jackson, to No. 2 F.T.S., Digby, on appointment to a Temp. Comn. on being seconded from the Army, 16/7.

Pilot Officers.—The undermentioned Pilot Officers are posted to No. 2 F.T.S., Digby, with effect from 16/7:—C. P. Barker, A. S. Barry, E. S. Bateman, M. G. Bircham, R. W. P. Collings, T. J. Davidson, D. Dickson, R. W. Duffey, F. J. Dunne, M. V. Dyas, F. G. Ferrier, D. G. P. Fitzpatrick, N. H. Fresson, M. G. R. Harris, T. L. Harrison, A. T. C. Hazeldine, A. D. Jones, M. R. Kelly, P. B. Manning, L. W. W. Modley, W. R. Monroe Higgs, H. A. U. Munro, A. L. T. Naish, B. D. Nicholas, L. S. Rollings, A. M. Stevens, D. I. Stewart, R. W. A. Stroud, W. P. J. Thomson, N. E. Whalley, H. N. C. Williams.

The undermentioned Pilot Officers are posted to the R.A.F. Depot, Uxbridge, on appointment to S.S. Comns (on probation), with effect 18/7:—P. G. J. Atkinson, I. B. Beesley, F. T. K. Bullmore, R. W. M. Clark, A. R. Combe, H. J. Cross, F. D. Dawson, G. Fachiri, C. E. V. L'E. Feasey, D. J. Hughes-Morgan, A. R. Grenfell, G. R. Jackson, K. F. Jones, J. R. Matthews, U. H. Mignon, A. P. Miller, F. W. Murison, M. G. Sedorski, G. E. E. Singleton, V. S. W. Smyth, B. G. Thompson, O. G. Williams, H. Box, G. K. Horner, F. J. Sarsfield-Sampson, P. W. M. Wright. C. R. Shillingford, to R.A.F. Depot, Uxbridge, on appointment to a S.S. Comn. (on probation), 19/7.

Medical Branch.—Squadron Leader T. C. St. C. Morton, M.D., M.R.C.P., D.T.M. and H., to No. 2 F.T.S., Digby, 2/8.

Flight Lieutenant J. MacC. Kilpatrick, M.B., to R.A.F. Depot, Uxbridge, 20/6.

Stores Branch.—Flight Lieutenants A. H. Comfort, to M.A.E.E., Felixstowe, 21/7. E. L. Ridley, to No. 1 F.T.S., Netheravon, 21/7.

Accountant Branch.—Flying Officer C. W. Cackett, to R.A.F. Depot, Uxbridge, 11/6.

Fatal Accidents.

The Air Ministry regrets to announce that as the result of an accident at Camberley to a Bristol Fighter machine of No. 13 (Army Co-operation) Squadron, Andover, on July 18, Plt. Off. William Horace Shorter, the pilot of the aircraft, and No. 362994 AC.1. Leslie Rogers were killed.

An inquest was held at Camberley on July 21, when a coroner's jury found that the pilot and observer were killed accidentally through the machine catching fire.

Flg. Off. A. G. Boon said that the machine was one of four working with the 2nd Infantry Brigade on close reconnaissance.

Wing Cdr. Saul said he saw the machine first at a height of 1,000 ft. The engine was throttled down and the pilot was descending voluntarily. At about 300 ft. he noticed flames coming from the centre-section under the engine. When he saw the flames the machine turned to the right slightly and dived vertically into the road. He had never had experience of a Bristol Fighter catching fire unless the petrol tank was shot through. In this case the fire was probably caused by a petrol leak.

Major Cooper, of the Accidents Investigation Committee, said that possibly the pilot intended to land on the recreation ground, but finding it covered with children attempted to land somewhere else.

The Coroner said that from the evidence it seemed that the fire might have been caused by the breaking of the petrol tank.

The Air Ministry regrets to announce that as the result of an accident at Aboukir, Egypt, to a D.H.9a machine of No. 4 F.T.S., Abu Sueir, on July 19, No. 86779 Cpl. Reginald William Richard Robins, the pilot and sole occupant of the aircraft, was killed.

The Air Ministry regrets to announce that as the result of an accident at Holbeach ranges, Lincoln, to a Gamecock machine of No. 32 (Fighter) Squadron, Kenley, Surrey, on July 20, Plt. Off. Richard Griffith Pace, the pilot and sole occupant of the aircraft, was killed.

The Air Ministry regrets to announce that as the result of an accident at El Tabbin, on the River Nile, to a D.H.9a machine of No. 47 (Bombing) Squadron, Helwan, Egypt, on July 22, 1927, 355883 AC.1. Harold Kauntze Bacon (previously reported missing) was killed. Flg. Off. Francis Stanhope Homersham, D.C.M., M.M., the pilot of the aircraft, was uninjured.

The Air Ministry regrets to announce that as the result of an accident at Northolt Aerodrome to a Woodcock machine of No. 17 (Fighter) Squadron, Upavon, on July 25, 1927, Flg. Off. Ian Andrew Anderson, the pilot and sole occupant of the aircraft, was killed.

An Australian Appointment.

The following is an extract from the Australian *Commonwealth Gazette*:—

The Governor-General in Council has approved of His Royal Highness Albert Frederick Arthur George, Duke of York, K.G., P.C., K.T., G.C.M.G., G.C.V.O., Aide-de-Camp to His Majesty the King, Group Captain, R.A.F., being granted the Honorary Rank of Group Captain in the Royal Australian Air Force, as from April 26, 1927.

Permanent Commissions for Short Service Officers.

The Air Ministry announces that appointments will shortly be made to fill a limited number of vacancies as short service officers in the R.A.F. for flying duties. These commissions are tenable for five years on the active list and four in the reserve.

Candidates must be between the ages of 18 and 25, well educated and of good eyesight and physique. Those accepted after interview at the Air Ministry by a selection board and by a medical board enter as Pilot Officers on probation and receive pay commencing at about £274 a year and free quarters, fuel, light, rations, and part use of servant, or, where these are not available, cash allowances in lieu amounting at present rates to about £141 a year. On transfer to the reserve, when they have completed their five years, they receive a gratuity of £375.

A strictly limited number of short service officers are, however, retained in the service. A competitive examination is held annually and is open to officers who are recommended and satisfy certain conditions as to age and service. Those successful at this examination are trained in aeronautical engineering or other specialist subject with a view to being granted permanent commissions.

Application for forms and regulations should be made to the Secretary, Air Ministry, Kingsway, London, W.C.2.

The R.M. Groves Memorial Prize Essay.

The awards in the 1926 competition for the R. M. Groves Memorial Prizes, which are open to all members of the R.A.F., for an essay on "Forecast of Air Development," are as follows:—

1st prize.—Flt. Lt. E. J. Kingston-McCloughry; D.S.O., D.F.C., Directorate of Technical Development, Air Ministry.

2nd prize.—Sq. Ldr. L. L. MacLean, Aircraft Park, India.

3rd prize.—Sq. Ldr. J. L. Vachell, M.C., Directorate of Organisation and Staff Duties, Air Ministry.

Special prize.—Flt. Lt. F. W. Walker, D.S.C., A.F.C., No. 10 Group, Coastal Area.

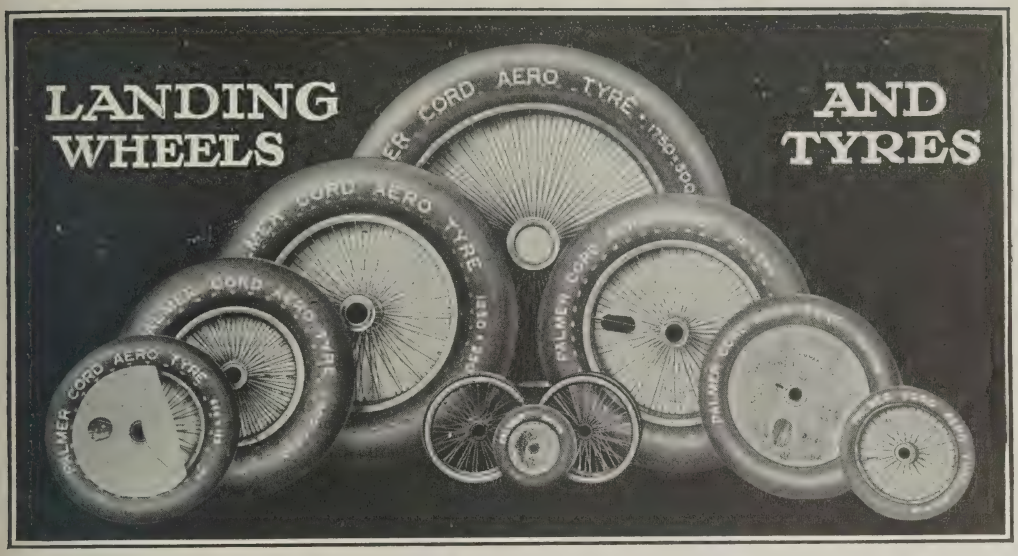
The Memorial Essay prizes were established by the family of the late Air Commodore R. M. Groves, C.B.E., D.S.O.

Vacancies for Ten Accountant Officers.

The Air Ministry announces that an examination will be held in the latter part of September next under the scheme inaugurated in 1924 for the entry into the Accountant Branch of the R.A.F. of qualified and experienced civil accountants. About 10 vacancies are likely to be available. The age limits are 22 to 26, extensible to 30 for certain candidates.

Improvements have recently been made in the conditions of service of Accountant Officers. Higher retiring ages have been fixed so that

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		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
700×100	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×200	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

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The Accountant Branch provides a permanent career. It is not of course possible to pledge the future but so far as present foresight can show the Branch will expand in the future and will be subject to no changes affecting adversely the fortunes of its officers.

Application should be made to the Secretary, Air Ministry (S.7), Kingsway, London, W.C.2, for the regulations and for application forms. Completed application forms should reach the Air Ministry by Aug. 15 next or at latest by Aug. 31.

Vacancies for Apprentice Clerks.

Sixty vacancies exist in the R.A.F. for well-educated boys, between the ages of 15½ and 17, to enter as Apprentice Clerks.

Approximately 40 of the posts will be filled by means of an open competition which will be held by the Civil Service Commissioners in October at various centres and the remaining 20 by direct entry of boys who have obtained an approved school certificate. Successful candidates will be required to complete a period of 12 years' Regular Air Force service after reaching the age of 18, in addition to the training period. At the age of 30 they may return to civil life or may be permitted to re-engage to complete time for pension.

Detailed information regarding the apprentice clerk scheme can be obtained from the R.A.F., Gwydyr House, Whitehall, London, S.W.1.

An opportunity will be given to Apprentice Clerks to volunteer for training as airman pilots. Selection to the number of about 60 annually is made from volunteers of all trades. A few airman pilots are periodically selected for commissioned rank.

THE AIR MANŒUVRES.

The first annual tactical exercises of the Air Defence of Great Britain began on July 25 and will end on July 30. The field of operations extends roughly over the counties of Middlesex, Kent, Surrey, Hampshire and Wiltshire, although the Units engaged have been drawn from the whole area under the Air Defence of Great Britain.

The object of the exercises is to test the development of the Air Defence scheme which was adopted in 1920.

For the purposes of these manœuvres the forces under the Air Defence of Great Britain have been divided into (i) an attacking force consisting of the Units of the Wessex Bombing Area (9 Squadrons) under Air Vice-Marshal Sir John Steel, K.B.E., C.B., C.M.G., and (ii) a defending force consisting of Units of the Fighting Area (13 Squadrons) under Air Vice-Marshal Sir Robert Brooke-Popham, K.C.B., C.M.G., D.S.O., A.F.C., and Air Defence formation (T.A.)—that is to say Anti-Aircraft guns, search-lights and observation organisations—under Major-General E. B. Ashmore, C.B., C.M.G., M.V.O.

The actual control of the operations varies during the week.

On Monday the operations of both sides were controlled by the Air Officer Commanding-in-Chief, A.D.G.B. (Air Marshal Sir John Salmond), who will also control the operations on Thursday and Friday.

On Tuesday and Wednesday the Air Officers commanding the Bombing and Fighting Areas conducted their own operations, but a certain amount of control was exercised by H.Q., A.D.G.B., for reasons connected with the instructional side of the exercises. The Umpires are in the machines engaged and a Recording Officer is stationed at each Aerodrome.

The general scheme of the manœuvres is as follows:—Westland (Fighting Area and Air Defence formations) has been attacked by Eastland (Wessex Bombing Area) and the Westland Government has retired to a Northern City taking part of its air and ground defences with it. (This cowardly action by the Westland Government is supposed to account for the present inadequate state of the defences of L——n and because some of the Territorial Air Defence Units have already done their annual training and cannot be dragged away from their lawful occasions to take part in the game.)

The Eastland commander is aware of the organisation of the London defences and details part of his forces to keep up a sustained attack on the L——n defences in order to prevent Units of the Westland Command being withdrawn to defend other parts of the country.

Therefore, in plain language, nine Squadrons of the Wessex Bombing Area will see how much damage they could do to London, approaching at difficult angles, in spite of the efforts of the Fighting Area and the Air Defence formations at their present strength.

Ground Organisation.

The ground organisation for Air Defence is probably even less well-known to the general public than is the organisation existing in the R.A.F. But although the scheme, like so many other important schemes, has been severely stunted in its youth by the exigencies of public finance, it is nevertheless based on sound and elastic principles.

In an extremely interesting lecture at the Royal United Service Institution on Nov. 24, 1926 (a report of which appeared in The Aeroplane of Dec. 1, 1926), Major-General E. B. Ashmore, C.B., C.M.G., M.V.O., described the need for a ground organisation and its place in the schemes of defence. He acknowledged that the fighting aeroplane was the first and principal means of defence, but claimed that it required the help of a considerable organisation on the ground and also that there were times and places at which defence from the ground might be the only means available.

Describing the ground organisation existing at the time of his lecture, General Ashmore said that it consisted of (A) two Air Defence Brigades stationed in London, each consisting of two brigades of artillery, a battalion of searchlights and a signal company; (B) eleven independent searchlight companies for work with the fighting aeroplanes, partly formed; (C) one battery of guns for use outside London; (D) an observer system partly organised and (E) a coastal watching system in the experimental stage.

These Units are provided by the War Office, but are under the Air Ministry for operations.

General Ashmore impressed on his audience that although the primary duty of the Anti-Aircraft Artillery was to destroy aircraft, it was sometimes more important to prevent machines doing their work than to destroy them. Guns were useful in breaking up formations and thus assisting the work of the fighting pilots. This will no doubt prove a considerable factor in guiding the decisions of the Umpires during the week's manœuvres.

The Searchlights.

Spectators of the present manœuvres who watched the London Defence work in 1914-18 will not see what was then known as "searchlight patrolling," which consisted of waving a large number of beams about in the sky whenever a raid was threatened. This system has been abolished and searchlights now are only used to co-operate with the guns or the defending aircraft.

The searchlights are—or will be eventually—spaced about two miles apart in order to cover the blind spots which exist vertically over each light. Each searchlight is connected with a Section Control for Intelligence work whose duty it is to obtain and forward information as to height, course and so on.

The Observer System.

The Observer System which existed to a certain extent during the War and was revived and extended in 1924, will play an important part in this week's operations. This system was also fully described by General Ashmore, but in order to appreciate the manœuvres it is enough to give a rough outline of the scheme.

The responsibility for observation is not exclusively military. The observer posts and observation centres are manned by special constables under the Chief Constables of Counties and Boroughs. They are connected by telephones of the ordinary Army type, connected to the General Post Office system.

The observer lines are laid to a centre. At the centre are plotters, one to each three posts. The reports are plotted onto a control map and recorded by an independent recorder. A teller overlooks the control map and reports to Air Defence Headquarters.

General Ashmore in his lecture claimed that from the moment that an observer sees the machine until the report is through the County centre and onto the map at Air Defence H.Q., not more than half a minute will elapse.

The system will not be in full operation during the manœuvres because the observers are all special constables who do the work without fee or reward, and the military authorities with their customary thought and consideration for civilians are loth to ask for any help which is not of urgent national importance from men, who, however willing they might be, are normally employed during their working day.—C. M. Mca.

[A full account of the Manœuvres will be published when details of the operations can be got.—C. G. G.]

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AIR AFFAIRS IN PARLIAMENT.

LANDING GROUNDS.

In the House of Commons on July 19, in reply to a question by Cdr. Bellairs, Capt. Bowyer (for the Secretary of State for Air) said that the number of landing grounds and air ports in the British Empire was 845, of which 237 were in Great Britain. Information was not available as to the principles on which places were classified in the United States as air ports or landing stations, the latter especially being a very elastic term, and it was, therefore, not possible to say whether the British figures were fairly comparable with the American.

THE CHIEF OF THE AIR STAFF.

In the House of Commons on July 19, Cdr. Bellairs asked the Secretary of State for Air whether the appointment of the present Chief of the Air Staff was made subject to any specified time limit. Capt. Bowyer (for the Secretary of State for Air) said that the answer was in the negative.

AIR MINISTRY OFFICIALS.

In the House of Commons on July 20, in reply to a question by Mr. E. Brown, the Secretary of State for Air made the following statement:—

"I am not sure what the hon. Member means by officials in executive positions; the expression would cover officials concerned with the issue of stationery, the audit of accounts, the building of barracks, or other duties in which flying qualifications would obviously be wasted. I can assure him that all executive posts in which flying qualifications are necessary are held by officials possessing such qualifications. I may add, since there seems to be an impression that there is a bias against ex-service men at the Air Ministry, that my Department has always been at pains to further the legitimate interests of ex-service men in its employ. It has, moreover, been so successful in this direction that reference to the latest quarterly statement relating to the employment of ex-service men in Government offices (Command Paper No. 2867) will show that the percentage of ex-service men to total staff on Apr. 1 last in the Air Ministry was higher than in any other Government Department. The hon. Member will, therefore, appreciate that this impression is entirely baseless, and I hope he will bring the actual facts to the notice of any ex-service interests with whom he may be in touch."

THE SAUNDERS VALKYRIE.

In the House of Commons on July 20, Col. Day asked the Secretary of State for Air whether the new aerial battleship *Valkyrie* had successfully completed the Air Ministry tests; to what use in the near future it was intended to put this class of airship or flying-boat, and could he give the House full particulars.

Sir Samuel Hoare said that an aircraft of the type referred to had lately completed its tests and it was intended that it should take part in a cruise of flying-boats in the Baltic in the near future. It was a three-engined flying-boat and carried a crew of five.

HEIGHT RECORDS.

On May 5, Lieut. C. C. Champion, U.S.N., reached a height of 33,455 feet, in a Wright Apache single-seat seaplane (400 h.p. Pratt and Whitney Wasp engine), thus beating the previous World's Record of 30,471 feet put up by Lieut. de Vaisseau Demougeot on a Loire-Gourdou-Leseurre seaplane (515 h.p. Gnome-Rhone Jupiter engine) on March 28, 1927.

Lieut. Champion's machine is a single-seat shipboard fighter biplane on a single central float and for several months prior to making this record attempt, Mr. Champion has been doing some experimental work with this machine using the supercharger developed by the National Advisory Committee for Aeronautics.

The total time the machine was off the water for this altitude climb was 36 mins., of which 25 mins. was consumed by the actual climb, which shows an average rate of climb of 1,400 ft. per minute.

On July 25 the same pilot on the same machine, but this time fitted with a Wright Simoon engine and with a wheel undercarriage instead of float gear, made an attempt on the World's height record for land machines.

Instruments showed that the machine reached a maximum height of 39,000 ft., some 1,800 ft. short of the World's record.

During his descent, and at a height of about 36,000 ft., seven of the nine cylinder-heads of his engine blew off, and the flying fragments tore holes through his wings and one knocked the oxygen tube from his mouth. Fire broke out on four occasions, but he finally landed uninjured.

LONDONT TO LONDENG.

In connection with the proposed Trans-Atlantic Flight from London, Ont., to London, Eng., it was reported that Capt. R. S. Maxwell, Chief pilot of the Ontario Government Air Service, and Capt. Tully, of the Northern Ontario Government Fire Patrol Service, had been chosen from the list of candidates to attempt this flight.

It has since been announced that the permission of the Ontario Government has not yet been obtained for the temporary release of these two pilots and that the Premier and the Minister of Lands and Forests contend that the forest wealth of the province is of more importance than any Trans-Atlantic flight.

The Premier has said "If these men can be spared for a couple of months in these dangerous days, there would appear to be little need for our Forest Patrol Service."

At any rate their desire to undertake the flight would seem to show that these particular pilots can well be spared from the Service.

WILLIAM GEORGE SITWELL.

All early members of the Royal Naval Air Service will regret deeply to hear of the death of Wing Cdr. William George Sitwell, D.S.C., who died at the R.A.F. Hospital, Halton, on July 21, in his thirty-eighth year.

William George Sitwell had served the Crown for over twenty years in the Navy and R.A.F. He joined the *Britannia* in 1905 and two years later served as a midshipman in the cruiser *Bedford* on the China Station. He was promoted Sub-Lieutenant in May, 1910, and Lieutenant in August, 1912.

In the latter year he joined the Naval Wing of the Royal Flying Corps and learned to fly at the Central Flying School, taking his Aero Club Certificate, No. 505, in June, 1913. Thence he was posted to the newly-formed Yarmouth Air Station.

Soon after the outbreak of war in 1914 he was posted to the R.N.A.S. Station at Hendon under Commander John Porte, R.N., and thence was transferred to the Chingford Air Station when it was opened, as No. 1 to Sq. Ldr. E. T. R. Chambers.

In January, 1916, he was promoted Flight Lieutenant, R.N.A.S., and served in the old cross-Channel steamer, the *Empress*, which was then doing duty as a seaplane-carrier. Later he was promoted Squadron Commander, R.N.A.S., and given command of the South Shields Seaplane Station under the Rear-Admiral, East Coast, for operations.

On May 1, 1918, he was awarded the Distinguished Service Cross "For zeal and devotion to duty from July 1 to Dec. 31, 1917."

In February, 1922, he was appointed as Signal Officer on the staff of Air Vice-Marshal Sir John Salmond, Air Officer Commanding in Mesopotamia. He was invalided home in October, 1923, as the result of illness contracted in Kurdistan.

He was appointed to No. 1 Group at Kidbrooke as Squadron Leader and later to No. 21 Group at West Drayton. On May 25, 1927, he was placed on the retired list with the rank of Wing Commander.

[Of the many who knew Bill Sitwell few knew him well, and still fewer understood him. But those who did know him well had a very sincere affection for him. Like all the Sitwells he was brilliantly clever, but his cleverness and brilliance were not such as commonly bring popularity in the Services, least of all in the Navy. His peculiarly sensitive nature suffered intensely in the atmosphere of the gun-room and the ward-room, and the moodiness which he showed in his later career was the result of the bullying which he had been forced to endure.

In his brighter moods none could be more amusing or entertaining than Bill Sitwell. He was by nature kind-hearted and considerate. The harshness which he showed on occasion was purely and simply the attempt of a gentle personality to disguise itself behind the Naval methods in which he had been trained, and nobody felt more miserable than he did himself when he thought that duty compelled him to be hard on anyone.

He was never physically strong and ill-health undoubtedly prevented him from winning the promotion which his experience and mental ability deserved. The Air Force and his friends are the poorer for the loss of him.—C. G. G.]

HAROLD GEIGER.

On May 17, Major Harold Geiger, U.S. Air Corps, was killed in an aeroplane accident at the Air Intermediate Depot, Middleton, Pa.

Major Geiger, who was 43 years old, was one of the first of the small number of U.S. Army officers who volunteered for aviation duty and he received his training at the Signal Corps Aviation School at San Diego, Cal., in 1912. In addition to being an aeroplane pilot, Major Geiger also held a balloon certificate and for the greater part of his service career he was associated with lighter-than-aircraft.

After America entered the War 1914-18, he served both in the office of the Director of Military Aeronautics and in France with the lighter-than-air section, and later he held a succession of commands both at home and in Hawaii.

Subsequently he served as Assistant Military Attaché at The Hague and later at Berlin, where he acted as observer in connection with the construction of the ZR-3, now the U.S. Navy airship *Los Angeles*.

While serving at the Tactical School, Langley Field, Va., in 1926, Major Geiger became a member of the Caterpillar Club. During fighting practice, his machine, an S.E.5, collided with another machine of the same type, piloted by Major H. M. Hickam, and both pilots saved themselves by parachute.

THE WESTLAND WIDGEON

THE OUTSTANDING BRITISH LIGHT MONOPLANE.

The Flight of Captain Charles Lindbergh from New York to Paris is the supreme vindication of the merits of the monoplane. Added interest is therefore given to this description of Britain's outstanding light monoplane which has one notable advantage over Captain Lindbergh's machine—the pilot's view is unimpeded.

THE Widgeon III is a very strongly built and substantial light aeroplane and it is particularly suitable for real hard work. The machine carries passenger, pilot and about 50 lbs. of luggage. The engine is the well-known Cirrus Mark II, or the Armstrong-Siddeley "Genet." Being a parasol monoplane there is a most excellent view for both pilot and passenger in a downward direction, making the machine ideal for patrol or survey work.

In addition the wings are braced with struts and consequently there is no chance whatever of the rigging getting out of true and needing skilled attention. The passenger's entrance is through a door in the side of the fuselage and he has a very roomy cockpit.

The aeroplane can be supplied with dual control. The machine is economical to run, the petrol consumption being approximately 20 miles per gallon, and the oil consumption is about one pint per hour. The overall dimensions of the machine when folded are only 8 ft. 6 ins. high, 10 ft. 6 ins. wide, and 23 ft. 1 in. long.

ENQUIRIES SOLICITED.

All machines are furnished with an aerobatic certificate of Airworthiness for a total weight of 1,400 lbs. which allows for passenger, pilot and luggage, while the total weight can be increased to 1,600 lbs. without exceeding the permissible load for normal factor of safety.

PRICE (with Cirrus II engine)

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Ready to fly away from Works.



A SAFE BUT SPEEDY LIGHT AEROPLANE

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THE AVRO-HINKLER UNDERCARRIAGE.

Genuine inventiveness always tends towards simplification rather than complication (*vide* Mr. Stout's motto,—"Simplicate and add more lightness"), and nothing could be simpler than the new Avian undercarriage invented by Mr. Bert Hinkler. It embodies all the good points of the split-axle undercarriage produced by the Avro Company many years ago, and it does a job of work which is much needed.

One of the disadvantages of folding wings in light aeroplanes is that when the wings are folded the weight of the wings is brought back, and consequently the tail of the machine is very heavy to lift. The Hinkler undercarriage is so arranged that as the wings are folded the wheels are brought back under the new centre of gravity, so that the tail is no heavier to lift than when the wings are open.

This is done by the very simple process of anchoring the front strut of the undercarriage to a cross-beam which is in front of the front spar of the lower plane, and anchoring the rear strut to the rear spar itself. The result is that when the wings are folded the rear strut falls back with the wing, pulling the wheel on that side back with it and flattening the pyramid formed by the three struts.

The advantages of the system are so obvious that they should provide a very valuable selling point for Avian agents.

On July 19 an Avro Avian (Cirrus Mark II), with the new split and folding undercarriage provided by Mrs. Eliott-Lynn, started from the Avro Aerodrome at Woodford at 03.20 hours and flew round England till it was landed at Cramlington, Newcastle-on-Tyne, at 21.27 hours.

The Avro Company state that halts were made at Sealand, Shrewsbury, Birmingham, Gloucester, Bournemouth, Gosport, Lympne, Norwich, Nottingham and Leeds. Which itinerary works out at about 825 miles.

A telegram received next day by Sir William Letts, Managing Director of A. V. Roe and Co., Ltd., reads as follows:

Delighted with Avian. Complete comfort throughout. 1,200 miles trail with 79 landings yesterday. Machine could have gone on indefinitely.—Lynn.

Though no statement was made to that effect, the flight was evidently intended to demonstrate that a light aeroplane can visit a great number of places in the course of a day's flying, and that given ordinarily competent piloting, nothing will happen to undercarriage or engine.

Between four and five landings per hour are needed to make up the 79 mentioned, during the eighteen hours of the journey.

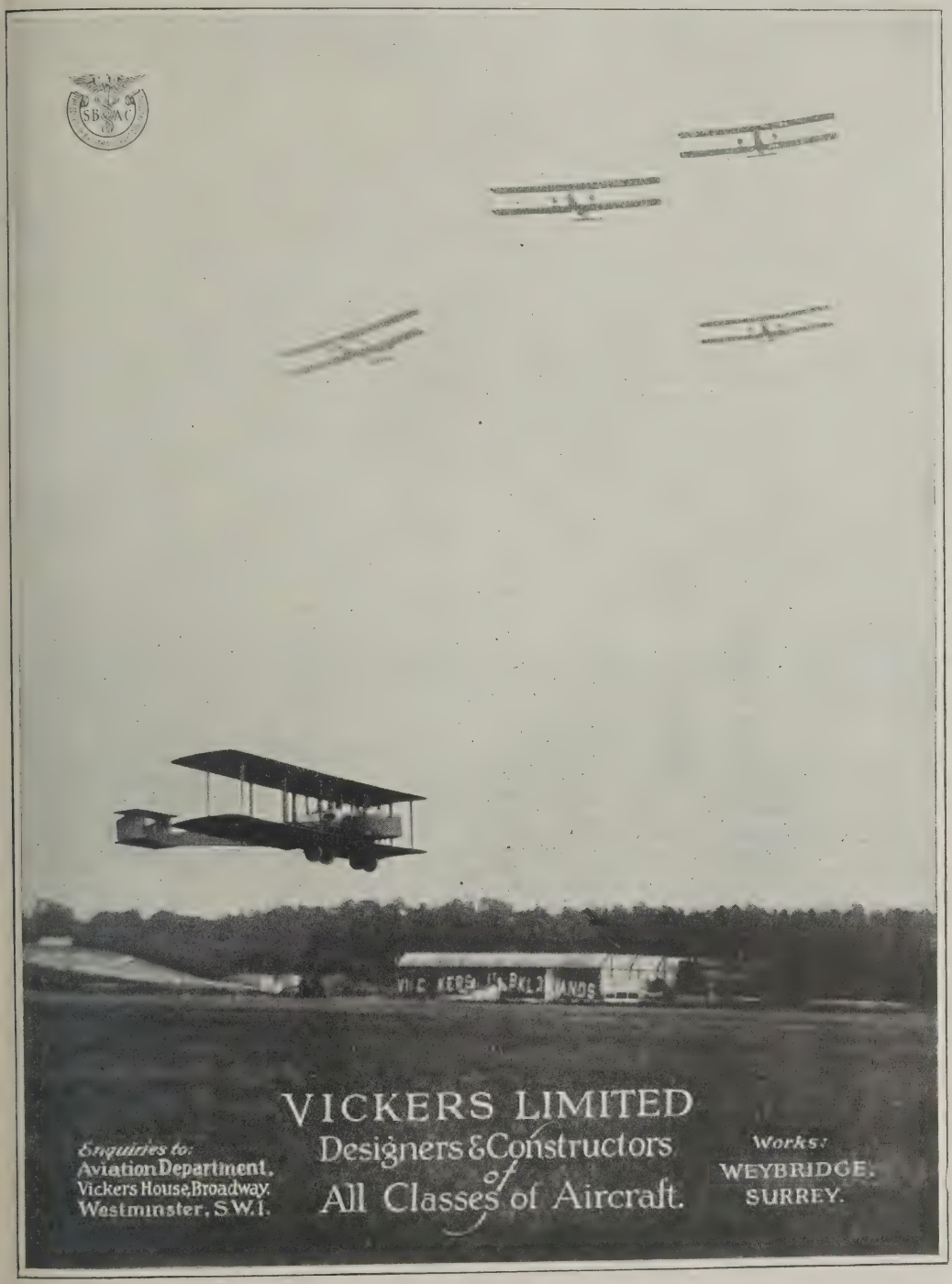
How it was possible to make such a vast number of landings and to cover 1,200 miles on a course which appears to measure only a little over 800 miles may be explained by the statement of a member of the Royal Air Force at Bircham Newton, who says that on that day an Avian appeared, touched its wheels on the aerodrome, and went on without stopping. As Bircham Newton is some distance off the indicated course the assumption is that the Avian touched on, without actually stopping at, a number of landing fields.

At any rate the flight is a useful proof of the reliability of the Cirrus Mark II and of the staunchness of the new Avian undercarriage.

THE HINKLER UNDERCARRIAGE.—At the top an Avian is seen in flying trim. In the middle picture one wing folded. At the bottom both wings folded.



INGENIOUS MR. HINKLER.—Here Mr. H. C. L. Hinkler, commonly known as "Bert," is seen with two Avians. That on the right has its wings folded showing how by this simple operation the new Hinkler undercarriage brings the wheels back to balance the weight of the folded wings and at the same time drops the nose of the machine to a level where, by putting the tail on a trestle, the engine can be reached conveniently.


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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending July 24.

Flying time 40 hr. *Instructors.*—Messrs. F. G. M. Sparks and S. L. F. St. Barbe. *Instruction.*—P. Hall, Lord Malcolm Douglas-Hamilton, P. G. Whalley, G. M. Randall, H. S. Greenland, Dr. Cook, S. O. Bradshaw, P. Drysdale-Smith, L. Rowson, E. Richards, Miss Black, E. M. Broderick, S. H. Simon, W. L. M. O'Connor, Miss Spooner, A. Pollard, C. E. Murrell, R. B. Tucker, J. Bickley, M. O. McKenzie, E. L. Clarke. *Solo.*—R. Sanders Clark, N. J. Hulbert, C. H. Swan, W. Roche Kelly, Major K. M. Beaumont, V. G. Leader, M. Wright, J. H. Saffery, A. C. M. Jackaman, S. O. Bradshaw, A. H. M. Lees, M. W. Ballantyne, J. J. Hofer, C. E. Murrell, J. G. Crammond, Miss O'Brien, O. J. Tapper, R. M. S. Veal. *Passengers.*—Miss Fowkes, Miss Ferris, G. H. Wilson.

Certificates.—Mr. A. J. Richardson passed the tests for his Aviator's Certificate on July 19, which happened to be his 60th birthday.

Miss Spooner also passed the tests for her Aviator's Certificate on July 18.

Nottingham Meeting.—The Club will be sending Moths, GEBLI and GEBNY, and Bristol Brownie, GEBJM, to Hucknall. The following members have been selected as Pilots:—Miss O'Brien, O. J. Tapper, L. J. C. Mitchell, Capt. H. Spooner.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending July 23.

Flying time, 34 hr. 55 min., made up as follows:—*Dual,* 17 hr. 25 min. *Solo,* 7 hr. 25 min. *Joy-ride,* 8 hr. 45 min. *Test-flight,* 1 hr. 20 min.

Dual with Mr. Brown—Messrs. Hollindrake, Riley, Harber, Parker, Meades, Flg. Off. Brunton, Williams, Ruddy, Watson, Torres, Linaker, Shiers, Sykes, Hope, Jewett, Tweedale, Allott, Caldecott, Kinsley, Nelson, Anderson, Costa, Leeming, Fisher, Pattrieoux, and Miss Baerlein. *Dual with Mr. Cantrill*—Messrs. Hollindrake and Caldecott. *Dual with Mr. Scholes*—Messrs. Nelson, Lacaye, Williams and Will Hay. *Solo.*—Messrs. Nelson, Lacayo, Musgrave, Chapman, Costa, Rowley, Agar, Leeming, Will Hay, Michelson, and Flg. Off. Brunton. *Joy-rides.—With Mr. Brown*—Messrs. Mills, Gorton, Dixon, Corless, Smethurst, Stafford, Rosebloom, Marshall, Williams, Phillips, Mrs. Elliott-Lynn, Mrs. Knight, Mrs. Smethurst and the Misses Fowler and Foxhall. *With Mr. Scholes*—Messrs. Brimelow, Knight, Hicks, Bowden, Lewis, and the Misses Corless, and Dickson. *With Mr. Cantrill*—Messrs. Freeman, Gorton, Robinson, Richards, Mrs. Freeman, Mrs. Brimelow, Mrs. Marshall, Mrs. Bowden, Mrs. Jackson, and Mrs. Robinson. *With Mr. Lacayo*—Messrs. Bennett, F. Scholes, Taylor and Lees, Mrs. Bennett and Miss Bennett. *With Mr. Hay*—Mr. Iles, Miss Reel, and Miss Griffin.

On Saturday, the 23rd, members of the Press Club were the guests of the Lancashire Aero Club for tea, after which some two dozen of them took joy-rides; thereby, let us hope, increasing the air-mindedness of the Press and its wife.

As anticipated, the Avian is proving extremely popular and is in great demand. We should be in a bad way at the moment without it, for LV (Moth) and OK (Avro) are both out of action for complete overhaul and only MQ is serviceable apart from the Avian.

The week has been considerably enlightened by the presence of two members of the Club who are not often with us, namely, Mrs. Elliott-Lynn and Mr. Will Hay. What with one of them emulating a grass-hopper (*vide* press reports) and the other making Hay while the moon shines, things have been quite cheery.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending July 24.

Flying time 44 hr. 30 min. *Instructor.*—J. D. Parkinson. *Solos.*—Messrs. R. N. Thompson, Turnbull, Irving, D. Wilson, A. Bell, H. Ellis, Shaw, Thirlwell, C. Thompson, Jewett, Pargeter, Elwes, Stawart, Bainbridge and D. C. Maxwell. *Instruction.*—McDougal, Rasmussen, Thirlwell, Shaw, A. Bell, Lawson, Gibson, Stawart, Pargeter, Maxwell, Heaton, Wilson, Bainbridge, Jewett, Gibson, Fairless.

Last week's report omitted to mention that Mr. L. C. Davey was launched on 13th, putting up a very good show. This week Messrs. M. G. Thirlwell and D. C. Maxwell were launched, both putting up excellent shows. Mr. Maxwell was launched after only *five hours'* dual instruction.

Practically no flying was possible on Wednesday or Thursday, rain persisting nearly all the time.

Sixteen and a-quarter hours' flying were put in on Sunday—the first really fine day of the week—which is a record for the Club for one day's flying.

The Yorkshire Aeroplane Club.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]

Report for week ending July 23.

Flying hours, 27 hr. 20 min. *Dual with Mr. Beck,* 18 hr. 40 min. *Solo,* 4 hr. 5 min. *Cross-Country,* 3 hr. *Joy-rides,* 1 hr. 30 min. *Tests,* 5 min.

Dual with Mr. Beck.—Miss Watson, Messrs. Leetham, Hirst, Yeoman, Lister, Wall, Dr. Ling, Brown, Crouther, Wilson, Ellison, Capt. Milburn, Sproule, Mann, Tenbos, Dawson, Micklethwait, Weaver. *Solos.*—Messrs. Wilson, Mann, Dawson, Wood, Wayman, Coles, Norway.

On Monday G-EBRZ, Capt. Milburn's new machine was brought safely to Sherburn by Mr. Beck and Capt. Milburn, and is of great service to the Club during G-EBNN's temporary absence. Mrs. Eliott-Lynn landed on Avro Avian G-EBRS on Wednesday doing a tour of the aerodromes.

Messrs. Broad and St. Barbe landed on Sunday morning to fill up with petrol and oil before continuing a circuit of the King's Cup Course.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending July 23.

Flying time 15 hr. 2 min. *Dual with Mr. McDonough.*—Capt. J. E. Brewin, R. D. Bednell, G. Robson, R. Cazalet, R. L. Brinton, L. H. Lee, N. Crane, H. Beamish. *Solos.*—H. J. Willis, S. H. Smith, R. L. Jackson, E. J. Brighton, C. Fellowes, G. V. Perry, W. Swann. *Passengers.*—L. V. Mann, R. Aspinall, A. B. Aston, F. L. Harvey, Mrs. McDonough, V. De Satge, S. G. Hall.

The Club will be closed over next week-end as a large number of members are going to the Nottingham Meeting.

Mr. McDonough is flying a Westland Widgeon III (Cirrus Mk. II) in the King's Cup Race.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending July 24.

Flying time, 12 hr. 40 min. *Instruction flying,* 7 hr. 20 min. *Solo flying,* 3 hr. 50 min. *Joy-riding,* 50 min. *Test flights,* 40 min.

Instruction.—Messrs. Evans 90 min., N. K. Baynes 40 min., Crook 35 min., W. M. Wall 35 min., T. F. Brewster 35 min., Dickson 30 min., Williamson 25 min., B. B. Henderson 25 min., A. H. Greasley 20 min., D. A. R. Cripps 20 min., B. Whittle 20 min., J. Dunnings 20 min., Boillot 20 min., Fagan 15 min., and Wing Cdr. Wyllie 10 min. *Solos.*—Flg. Off. Dawson 40 min., K. P. L. Bowen 40 min., E. T. Symmons 35 min., Shepherd 30 min., Lieut. P. D. Oliver, R.N., 30 min., Flg. Off. Southey 20 min., V. F. Nicholson 15 min., R. H. Cooper 10 min., and Flg. Off. Odbert 10 min.

Miss Rouse, Mrs. Rouse, Mr. S. Gavin, Mr. E. D. Symonds and Mr. Symonds, Senr., all had joy-rides with Flt. Lt. Thomson; Mrs Crook and Mr. R. H. Chaffey with K. P. L. Bowen; Mr. Frost with E. T. Symmons and Miss Rouse and Mr. E. D. Symonds with Flg. Off. Dawson.

The weather has been very unsuitable for flying this week, gales being prevalent on four days and also a certain amount of rain.

In addition to this, our Mk. II engine in G-EBOI developed serious internal complaints on Wednesday. It was removed immediately and our spare Mk. II engine substituted.

On Sunday evening of last week (too late for inclusion in our report) a resident of the Isle of Wight who had been spending the day on the mainland missed the last boat back to Cowes. He came to the Club and asked if he could be flown across to the Island. This was arranged and K. P. L. Bowen piloted him over, landing at the Saunders aerodrome at Cowes. The flying time for the double journey from Hamble to Cowes and back was twenty-five minutes; the boat takes just over one hour each way.

The Scottish Flying Club.

[Sec.: Flg. Off. H. W. Smith, R.A.F. (Reserve), 101, St. Vincent Street, Glasgow.]

The Committee states that notification has been received from the Air Ministry agreeing to the use of Renfrew Aerodrome in the event of the proposed Scottish Flying Club maturing.

The permission is of a temporary nature, and the favour has been granted owing to the fact that the various sites that might be considered would require at least twelve or fifteen months' attention before they could be made usable.

The terms and conditions are yet to be arranged, but the foregoing intimation considerably lightens the work of the Committee.

RAIN AT RAYNHAM.

Although rain interrupted the flying fête held at Raynham Park on July 23, the meeting must be counted as a success, and it may be hoped that the Norwich Hospital and the Norfolk and Norwich Aero Club funds have considerably benefited thereby.

The grounds of Raynham Hall were lent by the Marchioness Townshend, and several well-known pilots were present, including the Hon. Lady Bailey (Moth), the Lord Ossulston (Moth), Col. the Master of Sempill (D.H.51), Sq. Ldr. C. Rea (Boulton and Paul P.9), Messrs. H. Broad (Moth), Bert Hinkler (Avian), G. F. Lines (Moth), and others.

The R.A.F. was represented by officers and men from Felixstowe and Martlesham, the Service machines being a Gamecock, Moth, Avro Lynx, Bristol Fighter, Vickers Venture, and Fairey Fawn. Entertainment was also provided by the band of the R.A.F. (Felixstowe), and possible consequences of "errors of judgment"—fortunately non-existent—were anticipated by the voluntary services of Fakenham Ambulance, St. John's No. 10. Boy Scouts were also helpfully on parade.

At the lunch to the visiting pilots, friends, and participants, Lady Townshend expressed her hope that the further progress of flying might be promoted by similar meetings. The credit for the original suggestion of this meeting she ascribed to her friend, Maj.-Gen. Sir Richard Ruck, K.B.E., who has been intimately concerned with flying since its earliest days.

The Lord Mayor of Norwich, Mr. Bignold, emphasised the utility of flying. Despite the weather, he was flown by Lord Ossulston to Norwich and back during the afternoon, to keep a public engagement, so he also supplemented theory by practice.

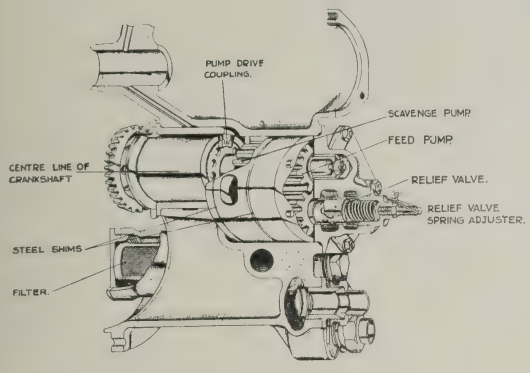
The spectators seemed to derive special pleasure from a vigorous aerial combat between the Gamecock and the Vickers Venture, a balloon bursting competition—in which Lady Bailey flew with distinction—and a demonstration of wing-walking executed by Mr. Lines on the P.9 piloted by Sq. Ldr. Rea.

Unfortunately the Avian was put out of action by the loss of a tyre. Mr. Broad provided a "wizard" demonstration of aerobatics.

During the tea interval a Bristol Fighter gave an exhibition of aerial fireworks in singularly damping weather, after which those who had braved the downpour witnessed the distressing end of Major Sandbags, who became detached from his parachute!

Joy-rides followed during a fine hour, but were not diligently pursued, as many of the 5,000 or 6,000 originally present had left for home. Lord Ossulston, Mr. Lines, and Sq. Ldr. Rea are to be thanked for their services in this connection; and, indeed, congratulations are due to all associated with the promotion and organisation of this fête.—A. G. Barrett

FEATURES IN THE DESIGN AND CONSTRUCTION OF THE "Bristol" JUPITER SERIES VI RADIAL AIRCOOLED ENGINE



THE BRISTOL AEROPLANE CO., LTD., FILTON, BRISTOL.

No. 8.—Oil Pump Assembly.

The duplex gear oil pump is in keeping with the simplicity and reliability of the Jupiter VI oiling system; it is a quickly detachable unit, securely housed in a chamber formed in the crankcase rear cover.

The scavenge pump has approximately 30% greater capacity than the feed pump and ensures the prompt removal of all oil after circulating through the engine.

The feed pump is designed for a big reserve to ensure the maintenance of a steady normal oil pressure over all running conditions, even with a worn engine, a factor contributing to the pilot's confidence in his engine.

The spring loaded relief valve can be readily adjusted and locked to the correct pressure, and requires no attention between engine overhauls.

Large independent oil filters are provided in both the feed and scavenge circuits; they are quickly removable for cleaning or examination without breaking the oil pipe lines.



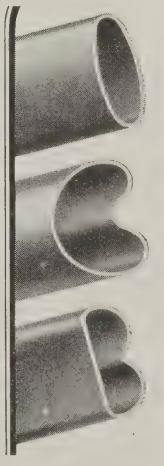
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Although some Aircraft Manufacturers prefer to purchase

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 27; Tuesday, 24; Wednesday, 25; Thursday, 26; Friday, 29; Saturday, 42; Sunday, 13.

IMPERIAL AIRWAYS LTD. :

Paris—London : London—Brussels—Cologne : Machines 77, passengers 687, freight 24 tons.

AIR UNION :

Paris—London : Machines 46, passengers 227, freight 11¼ tons.

K.L.M. :

Amsterdam—Rotterdam—London : Machines 25, passengers 186, freight 3.46 tons.

DEUTSCHE LUFTHANSA AG. :

Berlin—London : Machines 14, passengers 80.

SABENA :

Brussels—London : Machines 14, passengers 125.

PRIVATE :

Machines 8, passengers 8.

Total number of trips by British Machines, 85, carrying 695 passengers. Foreign Machines, 99, carrying 618 passengers.

COMPARATIVE FIGURES.

Week ending July 24 :

Machines, 167; Passengers, 1,313; Crews, 328; Total Personnel, 1,641.

Corresponding week, 1926 :

Machines, 170; Passengers, 1,243; Crews, 215; Total Personnel, 1,458.

Corresponding week, 1925 :

Machines, 152; Passengers, 894; Crews, 213; Total Personnel, 1,107.

Corresponding week, 1924 :

Machines, 207; Passengers, 1,055; Crews, 255; Total Personnel, 1,310.

Corresponding week, 1923 :

Machines, 122; Passengers, 565; Crews, 212; Total Personnel, 777.

Corresponding week, 1922 :

Machines, 150; Passengers, 366; Crews, 251; Total Personnel, 617.

Corresponding week, 1921 :

Machines, 101; Passengers, 460; Crews, 126; Total Personnel, 586.

Corresponding week, 1920 :

Machines, 82; Passengers, 175; Crews, 104; Total Personnel, 279.

Croydon Notes.

Low clouds, sea fog and Scotch mists remained the dominant feature of last week's weather. Monday (July 18) was reasonably good, the rest of the week has been unreasonably bad, and on Thursday it was so thick that only one machine—the twin-engined Fokker—got away in the morning and all other departures were hung up till the afternoon.

To the ordinary looker-on from the ground there have been few obvious signs of the abominable conditions which have in fact prevailed, and it is singularly unfortunate that at a time when passenger traffic is approaching its Summer peak the Air lines should be so afflicted.

It may be assumed that it is to the weather also that one may trace the unusually erratic nature of the passenger traffic which has been a feature of the past few weeks. The total volume of passengers carried by air from Croydon is at the best not enormous, and if it occurs to even half-a-dozen people simultaneously that the weather is—or is *not*—good enough to give air transport a trial on one particular day it may be enough to make the difference between doubling one particular service and running it single with a seat or two to spare.

The Breguet 26T, which is a commercial version of the well-known Breguet XIX type, fitted with a plump fuselage and a Jupiter engine, is among the daily visitors to Croydon at present. This machine is being given an extended flying trial by Air Union, carrying goods only. A regular part of its cargo at the moment is a consignment of a dozen or so crates of French wild strawberries which are delivered just before cocktail-time to some of the gayer London hotels.

The new machine looks exceedingly smart. It has very clean lines and is finished externally in white enamel. And whether it is that the machine is being flown with the engine well throttled, or for some other reason, it seems to be remarkably quiet in the air.

Imperial Airway's Argosies are said to be a source of constant annoyance to the Inspection Staff, as they are so rarely able to discover any defects. These machines have in fact given great satisfaction and have been singularly free from those irritating minor defects which have previously troubled the early career of new types of aircraft when subjected to regular air line service.

So far as can be discovered from reports—or the absence of reports—received from the Middle East, the D.H. Herculeses have shown a similar freedom from mechanical troubles. This is, it may be hoped, an indication that there has now been established a proper liaison service, as between Imperial Airways maintenance staff and the designers of British aircraft, which will lead to more and more satisfactory detail design in future British commercial aeroplanes.

It is not clear whether it is merely the rubber-neck season that has arrived and that the Air Port of London is now considered one of the sights of the times, or that people really are getting airminded. But in any case on a recent afternoon two large *chars-à-bancs* loaded to the brim with sightseers arrived at the aerodrome, and were conducted round the aerodrome by L.T.A. officials.

The party was not escorted to view the new buildings, and can scarcely have been greatly impressed by the heterogeneous assortment of huts and sheds which now grace (?) the London Terminal Aerodrome. Still they did have a close-up view of several impressive aircraft, and showed distinct signs of interest therein.—W. H. S.

THE CAIRO—BASRA SERVICE.

The most interesting fact which can be discovered as to the results of the first six months' operation of the Middle East service of Imperial Airways is that—apart from the irritating behaviour of the Persian Government in refusing to sanction the use of the landing grounds down the Persian Gulf—no

"CYCLONE"

The Beardmore (Six Cylinder Direct Drive) Aero Engine.

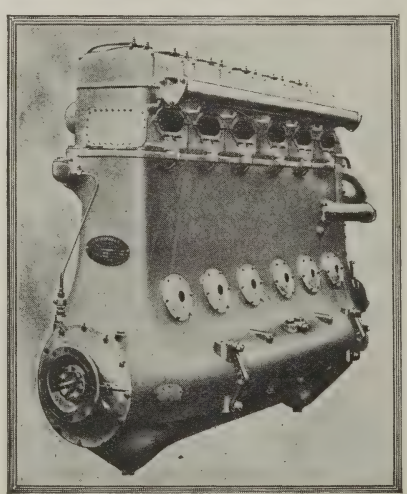
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The Beardmore "Cyclone" Aero Engine marks a distinct forward step in design. The combination of direct drive and low head resistance and slow moving propeller makes for great aerodynamic efficiency.

Simplicity in design ensures low maintenance costs.



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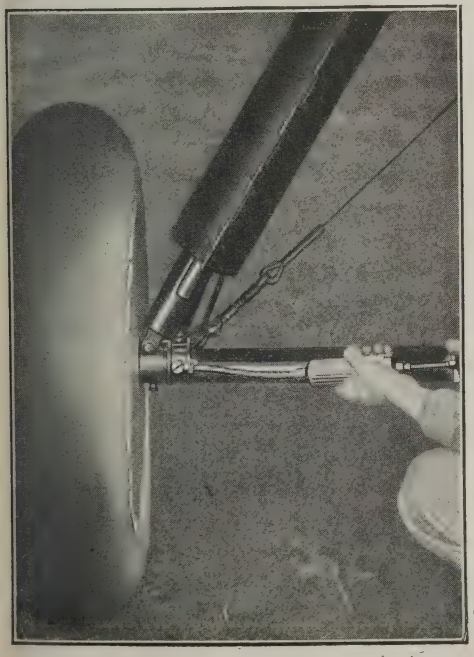
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troubles of any kind have been reported to London Headquarters.

All scheduled flights have started, all flights started have been completed, and no complaints of trouble, mechanical or otherwise, with machines, engines, or equipment, appear to have reached this country.

The only news that appears to have been received so far consists of some rather meagre statistics relating to traffic, etc. These may be summed up as follows :—

January, 8,866 miles flown, 66 passengers, and 856 lbs. of mail carried.
February, 6,541 miles, 46 passengers, 1,311 lbs. of mail.
March, 5,290 miles, 70 passengers, 1,568 lbs. of mail.
April, 9,636 miles, 90 passengers, 2,530 lbs. of mail.
May, 9,361 miles, 70 passengers, 3,124 lbs. of mail.
Figures for June are not yet available.

The regular service from Cairo to Basra ran once a fortnight each way, up to April 6, and once a week since. In addition a certain number of special additional flights, which account for the irregularity of the monthly mileage totals, have been made.

Mail loads show a very marked upward trend, and were nearly three times as great in May as in January. Unfortunately there is no information showing how much of the total mail passed over each particular stage of the route.

Passengers seem erratic in number, but have a tendency to increase. Here again there is no information as to whether the figures represent passengers carried over any one stage, or the total number of different individuals carried irrespective of stages, but it seems probable that they refer to the number of individuals.

The actual numbers of passengers do not sound impressive, but as the figure of 90 passengers in April covers only eight regular trips over the route, they may well represent very fairly full loads over a considerable part of the route.

The cutting short of the route at Basra naturally limits the usefulness of the service very seriously, and from the figures given for the curtailed service it may confidently be predicted that the weekly service will rapidly become inadequate for the traffic when the service can be extended to Karachi.

In the meantime the complete regularity of the service, and the total absence of any serious difficulties in operation, are doing valuable work by promoting public confidence in the reliability of air transport in the Middle East.

THE DUTCH EAST INDIAN TOUR.

On July 25, Mr. Van Laer Black, a proprietor of *The Baltimore Sun*, arrived at Croydon after flying to Batavia and back in a K.L.M. Fokker F.VII (450 h.p. Jupiter engine), piloted by Messrs. Geysendorfer and Scholte, and accompanied by his valet.

He left Amsterdam on June 15 and the whole tour of 18,600 miles was completed in 200 flying hours.

He was held up in Constantinople and Baghdad on the outward journey, first by the Turkish police, who refused to allow him to fly on the Turkish Sabbath, and secondly by dust-storms in 'Iraq. On the return journey he was again held up for three days by dust-storms on the Persian Gulf. The longest day's journey was from Constantinople to Nuremburg, a distance of 1,400 miles, which was covered in 13½ hours.

On his arrival at Amsterdam on July 24 he was greeted by a crowd of 15,000, and later Mr. Black was made a Knight of the Order of Orange and Nassau.

THE MAN IN POSSESSION.

According to *The Morning Post* an English aeroplane, forced to land in a field at Mardyck, not far from Dunkirk, killed two cows and damaged crops in the process.

The incensed owner of cows and crops set the law in motion, and a bailiff from Dunkirk appeared upon the scene with a demand for 10,000 francs as settlement for the damage. The pilot having no such sum about him, the bailiff impounded the aeroplane and detained it for two days, at the end of which time a settlement was reached, and the aircraft was allowed to leave,—presumably by ground.

The machine in question was a three-engined Handley Page Hamilton belonging to the Sabena. One of the wing engines caught fire and the pilot made a hurried descent, wiping off his undercarriage in addition to committing the above devastation.

BUSINESS IS BUSINESS.

From the "Agony" column, *The Times*, July 26 :—

Wanted, an R.F.C. man of high character, experienced, capable of taking an elderly business gentleman daily from Bedfordshire to Weybourne, Norfolk, and fill up spare time in kitchen garden; must be able to rise and land cleanly and smartly.—State experience, age, when at liberty and references, to Mr. W. B. Ratkins, The Gables, Westaning, near Bedford.

Perhaps Mr. Ratkins hopes to breed Moths in the kitchen garden. It is not clear whether references are required as to horticultural or aeronautical experience.

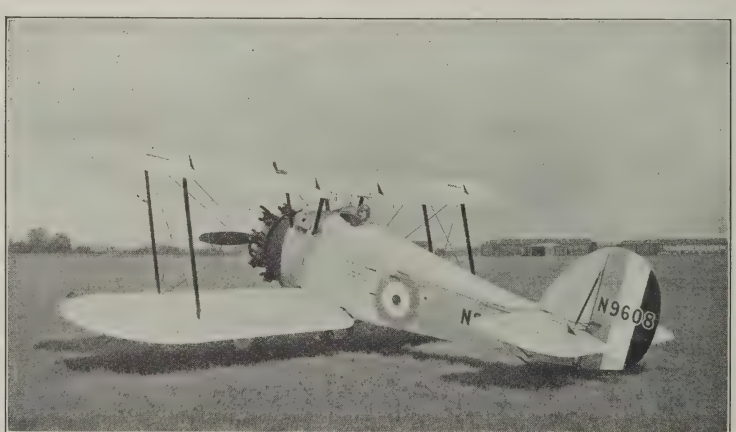
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MORTGAGES AND CHARGES.

BRITISH ANZANI ENGINEERING CO. LTD.—Memorandum of Deposit dated July 13, 1927, to secure all sums and liabilities incurred by the mortgagee by virtue of guarantees given for the company, charged on freehold premises No. 30, Scrubbs Lane, Willesden. Holder: E. Burt, 21, Cheyne Place, Chelsea, S.W.

COMMERCIAL AIRSHIPS, LTD.—Debenture dated June 30, 1927, to secure £100 and further advances charged on the company's undertaking and property, present and future, including uncalled capital. Holder: J. E. Wilson, 24, Basinghall Street, E.C.2.

PERSONAL NOTICES.

BIRTHS.

CAHILL.—On July 16, at Damrou, Queen's Road, Felixstowe, to Gwendolyn Margaret (*née* Harry) and Flt. Lt. C. H. Cahill, R.A.F.—a daughter.

JOHNSEN.—On July 17, at Balcombe House, Balcombe, to May (*née* Bowater), wife of Capt. O. C. W. Johnsen, D.F.C.—a son.

MANSELL.—On July 17, at Eastchurch Cottage, Caterham, to Molly, wife of Sq. Ldr. R. B. Mansell, O.B.E., R.A.F.—a son.

MARRIAGES.

BAKER—BONHAM-CARTER.—On July 23, 1927, at St. Mary's, Westerham, by the Reverend W. M. H. Wathen, Vicar of Woodford Green, Essex, and the Reverend E. W. Baker, Rector of Witchampton, Dorset, Flt. Lt. John Wakeling Baker, M.C., D.F.C., Royal Air Force, elder son of the Revcrend S. V. Baker, B.A., A.K.C., Rector of St. Peter's, Holborn, to Katharine Hilary Margaret, only daughter of Lieut.-Col. H. Bonham-Carter, of Westerham, Kent.

BAZELL—FIELD.—On July 23, at St. Mary le Strand, W.C., by the Rev. C. A. Cockbill, assisted by the Rev. Prebendary, C. Bazell, Flt. Lt. Cuthbert Caumont Bazell, R.A.F., third son of the Rev. Prebendary and Mrs. C. Bazell, Bridgewater, Somerset, to Elsie Augusta Field, daughter of Mr. and Mrs. A. H. Field, of Southwood Road, Eltham.

BRYSON—ALLEN.—On July 16, at St. George's, Hanover Square, Oliver Campbell Bryson, M.C., D.F.C., A.M., Flt. Lt., R.A.F., younger and only surviving son of George A. Bryson, Barnt Green, Worcestershire, to Mildred Cecile, younger daughter of Mr. and Mrs. Benjamin C. Allen, of Chicago, U.S.A.

DAWSON.—McINTYRE.—On June 30, at Murton, Durham, W. L. Dawson, Flg. Off., R.A.F., only son of the late Mr. and Mrs. W. J. Dawson, of Sunderland, to Elizabeth Leslie, daughter of Dr. and Mrs. D. V. McIntyre, of Murton, Durham.

STEVENS—GATES.—On July 20, at Wing, Flt. Lt. A. C. Stevens, R.A.F., only son of Mr. and Mrs. C. E. R. Stevens, of Jersey, C.I., to Beryl, youngest daughter of Mr. and Mrs. B. J. Gates, of Wing Park, Wing, Bucks.

FORTHCOMING MARRIAGE

CLOGSTOUN—LIDDALL.—The marriage arranged between Flt. Lt. T. O. Clogstoun, R.A.F., and Miss Katharine Liddall will take place on Wednesday, Aug. 24, at 2.30, at St. Saviour's Church, Chelsea.

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Best on Test



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DEATHS.

PACE.—At Sutton Bridge, near Spalding, on July 20, as the result of a flying accident, Richard Griffith Pace, Plt. Off., No. 32 (Fighter) Sqdn., R.A.F.

Mr. Pace joined the R.A.F. with a S.S. comn. in March, 1926. After a course of flying instruction at No. 5 F.T.S., Sealand, he was posted to No. 32 (Fighter) Sqdn. at Kenley.

ROBINS.—At Aboukir, Egypt, on July 19, as the result of a flying accident, Cpl. Reginald William Richard Robins, R.A.F.

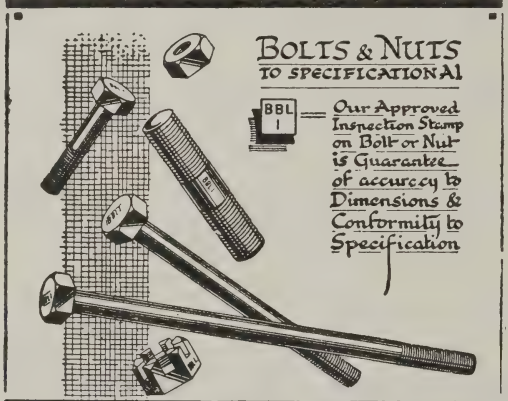
ROGERS.—At Camberley, on July 18, as the result of a flying accident, AC. Leslie Rogers, R.A.F.

SHORTER.—At Camberley, on July 18, as the result of a flying accident, William Horace Shorter, Plt. Off., No. 13 (Army Co-operation) Sqdn., R.A.F.

Mr. Shorter entered the R.A.F. with a S.S. comn. in September 1925, and was posted to No. 5 F.T.S., Sealand, for a course of flying instruction. In August, 1926, he was appointed to No. 2 (A.C.) Sqdn., and in April, 1927, to No. 13 (A.C.) Sqdn.

SITWELL.—On July 21, 1927, at R.A.F. Hospital, Halton, Bucks, after four years' illness contracted on active service in Mesopotamia, Wing Cdr. William George Sitwell, D.S.C., R.A.F., only son of Major Francis H. S. Sitwell, of Elmhurst, Alnwick, and beloved husband of Margery Sitwell, aged 37.

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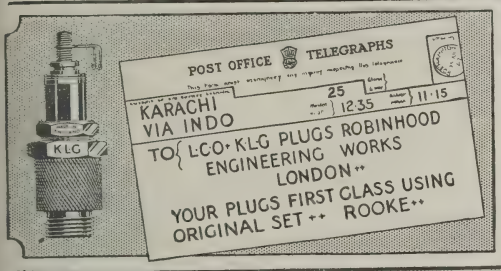
Edited by C. Gray

Vol. XXXIII. No. 5. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"EAST IS EAST, AND WEST IS WEST,
"AND NEVER THE TWAIN SHALL MEET."—*Kipling.*



WHAT'S IN A NAME?—The Short Singapore (Rolls-Royce Condors) flying by Rochester Castle, which as Hrof's-Ceaster (Rolf's Castle) was our Eastern Key position in Saxon days. The new class of big flying-boats, of which the Singapore is a prototype, has been designed for operations in Far Eastern waters, but cannot be used in quantities till the Navy's base at Singapore is finished—by which time the type will certainly be obsolete.



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AUG. 3, 1927.

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The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON THE KING'S CUP RACE.

Whoever fixed on that big field at Hucknall Torkard as a Service aerodrome during the War 1914-18 probably suffered merely from congenital imbecility, for anything less like a suitable place for the training of war-pilots would be hard to imagine. But brains were scarce in England in those days,—the best brains were over-seas. So there was some excuse for him, or them.

There is more difficulty in finding an excuse for the people who chose it as the starting and finishing point of our one Classic Air Race of the year,—now that the Aerial Derby is extinct. There is not even the weak, if plausible excuse that the locality would provide a pleasing holiday for hard-worked officials of the Royal Aero Club.

Hucknall Torkard is on the top of a hill surrounded on three sides with wooded hills and valleys interspersed with the spoil-banks and pit-head gear of coal-pits and straggling colliery villages. There does not seem to be an acre of decent level landing ground for miles, except the bald patch on the top of the hill which is the aerodrome.

The third side of the aerodrome slopes away to the South and South-West down a long wide valley which is filled by Nottingham and its Northern suburbs and excrescences. It is as unlovely a prospect as could assail the eye.

Factory chimneys, rows of mean streets, smoke and dirt, with an occasional church tower make up the view from the select enclosure. The rest of the way round all view is shut in by the top of the hill, the big sheds, pit-banks and woods,—the only bright spot on the day of the race was a row of the Shell Petrol Co.'s yellow advertising banners, which gave the impression of a gleam of sunlight on the grim landscape.

The only thing that can be said in favour of holding a holiday meeting at Nottingham is that after it all the visitors are thankful to get back to work in civilised surroundings. Nottingham ranks with Coventry, Eng., and Dayton, O., as one of the World's best cities to keep out of. And it is worse than Coventry because there are not so many good roads out of it.

The city itself is ugly and dirty, except for the old castle and the boulevard in its neighbourhood, which seem like a great lady who has fallen on evil days and is compelled to live in a slum. The people on the whole are ugly and uncouth,—like all the folk of the Midlands, lacking the lazy suavity of the South and the rugged virility of the North. And their accent is as ugly as themselves.

Nottingham, or Notting-gum, as the indigenous call it, aspires to have a flying club. There will be interest in seeing whether anything comes of it. Such a place is hardly likely to produce the kind of sportsmen who are needed for a successful club. Part of Nottinghamshire and Leicestershire are good hunting country, but the hunting people are only



THE BAND OF HOPE.—Mr. Lawrence Hope, the winner of the King's Cup, being carried to the Official Enclosure after finishing. On the left, in soft hat, is Mr. St. Barbe of the De Havilland Co., Next, in plus fours, is Mr. Dick Dresser. On the right of Mr. Hope is one eye of Mr. Hope's partner in Air Taxis Ltd., Mr. Mundy, and on the extreme right, waving his hat, is Mr. Loader of the De Havilland Co.

seasonal visitors. They are not permanent residents, and in any case they go there because the going is good and easy.

They are not like the hard-headed hard-riding Yorkshiremen who live in and on their own county, and are likely to make the Yorkshire Aero Club a success now that it is becoming a County club and is freeing itself from the clutches of the City Modocks. Judging from the little one saw of the Nottingham people, and from the bits one heard of speeches which were broadcast round the aerodrome, one has a notion that the proposed Club is like to be overlaid and smothered at birth by the local Modocks

Anyhow, the Royal Aero Club chose to martyrise everyone concerned with the event, by holding the King's Cup Race at Nottingham,—on the plea that it was time the Midlands were made airminded, and also because the courses laid out over Norfolk and Lincolnshire run over open country where there are big fields suitable for fast machines in case of forced landings. Which latter plea is nonsense, because the five or ten miles at the Nottingham end of the two courses (four different bits of about five miles each) are over country which is rather less suitable for landing a fast machine than is the country round Erith and Gravesend, in the abandoned Circuit of London,—not to mention the fact that the fen country between Huntingdon and King's Lynn is as cut up by dykes and ditches as is Holland and is far from suitable for the forced landing of fast aeroplanes.

Actually the aerodrome is no better for fast stuff than is Stag Lane, and its approaches are worse. So the race might just as well have been flown round London, so far as the competitors were concerned, and much better for the convenience of those groundlings who had to do with it. Still, of course, it was an Aero Club show, and had to be mismanaged somehow.

Incidentally, not content with holding the race at Nottingham, the Aero Club measured the Northern lap of the course wrongly, and gave it out in the programme as being eight or ten miles shorter than it really was, so the official speeds given for that lap are all wrong. How a mistake of such a kind can be made by the governing body for the Sport of Flying is known only to themselves.

One arrived in Nottingham late on Friday night, there being affairs of moment needing attention in THE AEROPLANE office,— so the business of describing the preparations on Friday is here committed to Mr. Geoffrey Dorman, whom please read :—

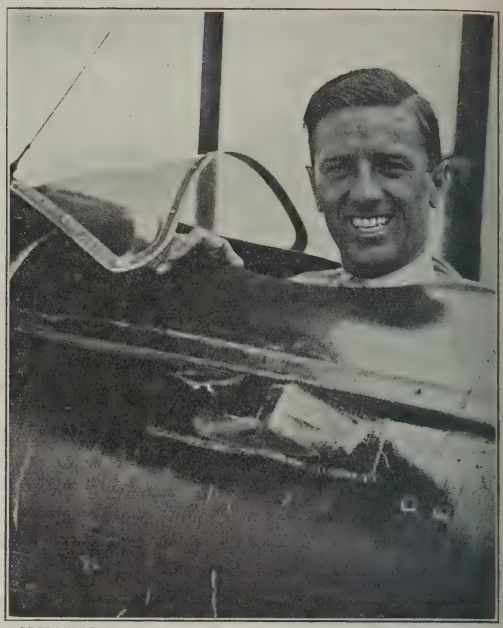
FRIDAY'S DOINGS.

Having taken 4½ hours to reach Nottingham on the Morris Oxford and Asquith it really was rather depressing to find that the mere Moths had done the journey in about 1¾ hours, and that the Tiger-Moth had arrived in 50 minutes (on Sunday the Tiger came up in 39 mins.).

The Editor, who likes Nottingham as much as I do, says that he has already written a page on the beauties of Nottingham. Though I have not yet read it, I agree with every word of it, though it is a pity that one has to be so delicate in print. Anyhow the said Oxford and Asquith never went so fast in its life as it did when it left Nottingham.

By 16.00 hrs. on Friday there were still a number of machines absent. None of the Avros had arrived, and the A.D.C. team had not appeared. Lady Bailey had arrived earlier in the week, and had gone again, and her second advent was incessantly expected.

Everyone is annually agitated by a rule that anyone not present by zero hour, which in this case was 18 hrs., may be disqualified at the discretion of the Committee. By this time everyone seems to have realised that the Committee has no discretion, and so nobody has yet been disqualified.



SMILING THROUGH.—Mr. W. L. Hope, Winner of the Sixth King's Cup,—in his D.H. Moth (Cirrus engine).

Just before 18 hrs. Mr. Hinkler arrived on the Avro-Alpha, Sq. Ldr. Jones on the Boreas and Mr. Hinchliffe on the D.H.9 Nimbus.

Mr. Hinkler said that the Avenger and Mr. Watt's Avian had left Hamble before he had. Mr. Watt however landed at Farnborough and came on later, and the Avenger had gone to Martlesham where it was rumoured that a flying wire had broken.

Mr. Goodman-Crouch was being attacked by all the competitors and officials in turn about the handicaps. We really are most fortunate in having Mr. Crouch. Some people simply loathe being constantly and unjustifiably slated all round. On some people such treatment has no effect at all. Mr. Goodman-Crouch however actually seems to enjoy being constantly badgered.

By way of winding up proceedings Mr. Hubert Broad took up the Tiger-Moth and showed its fine turn of speed. It did not seem too easy to land, but Mr. Broad said it was all right.

After which I descended into Nottingham, and still hated it.—G. D.

THE DAY OF THE RACE.

Here one resumes one's own tale of woe :—



CROSSING THE LINE.—Mr. Lawrence Hope, on D.H.Moth ME (Cirrus) in the act of finishing the race.

AUGUST BANK HOLIDAY MEETING AT NOTTINGHAM.

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A FINE EFFORT.—Mr. W. J. McDonough, the Instructor of the Midland Aero Club, starting on the Westland Widgeon III (Cirrus Mk. II) in the last lap of the King's Cup Race,—in which he took second place.
("Aeroplane" photograph.)

The morning of the race was dull and dreary with a strong and gusty S.W. wind. There were one or two sickly gleams of sunlight, several drenching showers, and otherwise grey clouds and a generally moist feeling.

Of the 26 entries published last week, 9 did not start.

The C.L.A.IV, the Felixstowe entry, failed to arrive because of a leaky oil-pipe.

The Moth which Mr. Youell was to fly did not arrive because, according to rumour, Imperial Airways would not give Mr. Youell leave,—which seems wise, if true, because he was probably much better employed in making people airminded btween London and Paris.

Mrs. Elliott-Lynn, for some reason of her own, scratched the Avian which Mr. A. Fildes, late M.P. for Stockport and a director of the Avro Co. had entered for her, though on the known speeds of the two machines she ought to have had no difficulty in giving the allotted start to Lady Bailey's hard-worked Moth and so in winning at any rate the distinction of being the fastest feminine competitor.

Mr. Brown, the Manchester Club instructor, did not appear with the Moth entered by Mr. Leeming.

Mr. Bert Hinkler had, and caused, a great disappointment in not being able to start on the Avro-Avian-Alpha. The new Alpha engine looked lovely, and had a fine bark when it was run up on full throttle. Waiting for the signal on the starting line the engine choked and stopped. The drain-plug was taken out of the carburettor to clear a supposed air-lock. When it was put back and locked home a leak showed round the edge. This was found to come from a hitherto concealed crack in the aluminium casting (this electrified dirt again) strained open by locking the plug. No repair could be made on the spot, so Mr. Hinkler retired.

The Avian with unnamed pilot entered by Sir William Letts did not appear.

The old Martinsyde entered by Mr. Leslie Hamilton which Mr. Vintcent was to fly did not appear either.

The Nimbus Martinsyde entered by Lt.-Col. Darby was on the ground, but on the formula-handicap it could not win, and as it could not do fastest time it was not started, but was kept for the Monday racing.

The Bristol Badminton, as stated elsewhere in this paper, had crashed on Thursday, when Mr. F. L. Barnard was killed. His death added to the gloom of what was not in any case a cheerful day.

Finally the Avro Avenger, which would have done fastest time in the race, was detained at Martlesham.

A thing that strikes one as worth mentioning at this point is the humbug of insisting that for certain races machines must be entered by individuals and not by firms or clubs or syndicates. What on earth is the sense of Mr. A. V. Roe, Sir Wm. Letts, Mr. A. Fildes and Sir Kenneth Crossley entering machines when they are all A. V. Roe and Co. Ltd. and why should Wing Cdr. Breese be the entrant instead of the Halton Club, or Flt. Lt. Comper instead of the Felixstowe Club, and so forth? And why should not Air Taxis Ltd. get the advertisement of entering Mr. Hope's Moth?

A personal entrant ought to be really the actual owner of a machine, or (while rich men are still shy of spending money on the beneficial and patriotic game of building and owning racing aeroplanes), at any rate the hirer or charterer of a machine, who is personally responsible for the insuring and flying of it and for the conduct or misconduct of its pilot.

Especially why should the Service Clubs be excluded from entering races reserved for private owners, although a member of the Club (as afore-mentioned) may be a nominal entrant in other races? To encourage private owners they may well have races to themselves which are barred to firms enriched by Government orders. And Clubs which batten and fatten on Government subsidies may well be barred from such races. But what is the difference between a private owner who is helped by friends as volunteer mechanics, and

STARTERS AND TIMES IN THE KING'S CUP RACE.

Identity No. and Letter.	Pilot.	Machine and Engine.	Starting Time.	First Lap.		Second Lap.			Third Lap.		Place	Total Flying Time.
				Finished	Speed m.p.h.	Finished	Official Speed	Real Speed	Finished	Speed		
6—JO	Norman Jones	ANEC–Cherub	08–00–00	10–25–00	77.4	—	—	—	—	—	–	—
4—OO	F/Lt. Trench	HAC–Cherub	08–34–13	—	—	—	—	—	—	—	–	—
5—ME	W. L. Hope	Moth–Cirrus I	09–32–39	11–24–54	96.5	13–55–05	90.2	95.9	16–22–53	92.0	(1)	5 hrs. 50 m. 14 s
15—QH	Alan Butler	Moth X–Cirrus II	09–55–59	11–36–42	107.6	—	—	—	—	—	–	—
18—RT	F. G. M. Sparks	Moth X–Cirrus II	09–55–59	11–42–32	101.7	—	—	—	—	—	–	—
26—SK	Bernard Martin	Moth X–Cirrus II	09–55–59	11–54–00	91.8	14–18–09	94.9	100.9	—	—	–	—
12—QL	Dudley Watt	Avian–Cirrus II	10–04–09	—	—	—	—	—	—	—	–	—
10—RQ	S/Lr. Probyn	Widgeon–Genet	10–04–34	11–55–59	97.2	14–28–36	91.4	97.2	16–47–18	96.2	(5)	5 hrs. 42 m. 44 s
2—RF	Col. Sempill	Bluebird–Genet	10–08–18	—	—	—	—	—	—	—	–	—
3—PU	Lady Bailey	Moth–Cirrus II	10–11–58	12–05–32	95.4	—	—	—	—	—	–	—
22—RL	W. J. McDonough	Widgeon–Cirrus II	10–16–20	11–59–08	105.3	14–18–45	98.9	105.1	16–32–09	104.8	(2)	5 hrs. 15 m. 49 s
24—KO	W. G. Hinchliffe	D.H.9–Nimbus	11–21–51	12–49–33	123.5	14–50–00	119.7	127.3	16–44–36	128.0	(4)	4 hrs. 22 m. 45 s
19—LD	S/Lr. Payn	Vespa–Jupiter	11–33–41	13–02–15	122.3	15–06–02	115.5	122.8	—	—	–	—
7— —	F/Lt. Bulman	Horsley–Condor	11–40–17	13–07–39	124.0	15–11–21	115.6	122.9	17–07–36	125.6	(6)	4 hrs. 27 m. 19 s
17— —	H. S. Broad	Tiger Moth–Cirrus II	11–50–29	—	—	—	—	—	—	—	–	—
20—IP	E. R. Scholefield	Vixen–Lion	11–54–16	13–09–06	144.7	14–57–47	137.7	146.4	16–43–39	142.8	(3)	3 hrs. 49 m. 23 s

NOTE:—The distance of the first lap is 180 miles. The distance of the second lap is given by the Royal Aero Club officially as 180½ miles, but in reality measures about 192 miles. Consequently the full course is 552 miles instead of 540 as announced.

CUP RACE
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THE LATEST SUCCESS:—Moth ME, built two years ago, wins the King's Cup.

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a little private syndicate or partnership like the Service Clubs? They are surely the purest of amateurs, even though flying be their profession.

The Start.

The start was without incident, excitement or emotion, except for the non-starting of the Avian-Alpha. The names and order of the starters will be found in the table of results on the previous page.

The only interest was in the starting of Mr. Broad on the Tiger-Moth. Two Tiger-Moths had been built. They were to have had the new D.H. engine, designed by Major "B. H. P.-Puma" Halford for the De Havilland Co. as an improvement on the Cirrus, which he designed for A.D.C. Aircraft Ltd. (That is the best of being a free and independent consulting engineer, you can go on beating your own best.) Unfortunately the D.H. engine did not pass its type-test for its airworthiness certificate in time to fly in the race. So one Tiger-Moth was fitted with a Cirrus Mk. II and entered for the race, and the other was kept to fly in the Bank Holiday races.

That with the Cirrus was known to do 160 m.p.hr. and the one with the D.H. engine was estimated to do 175 m.p.hr. Pretty hot going for 80 h.p.,—and bearing out Mr. Handasyde's claim four or five years ago, that given proper aeroplane design and a good enough pilot, the World's Speed Record of that period could be broken with a 300 h.p. Hispano-Suiza, because most of the power of the bigger engines was used in carrying their own weight.

And it *is* amusing to think that with a simple little 80 h.p. Cirrus engine, built largely of war-time Renault parts, the Tiger-Moth is some 30 to 40 m.p.hr. faster than the R.A.F.'s single-seat fighters with about 400 h.p. It shows the difference between free-handed design and design on fixed ideas plus official interference.

Anyhow, Mr. Broad's little black machine went away like a streak of dark lightning (as an Irishman might say), though it took a long run before leaving the ground. This, we learned afterwards, was because the throttle-lever slipped back about a quarter of its travel after the machine had started, and Mr. Broad took a few seconds to notice what it had done.

The First Lap.

The first man home at the end of the first lap was Mr. Norman Jones, popping along pluckily on his Anec monoplane with its two-cylinder Cherub, bumped to blazes by the wind but making such good time that he was a certain winner on the formula-handicap if all went well, and as cheery as ever. His speed over the lap was 77.4 m.p.hr.—a very fine performance.

The next should have been Flt. Lt. Le Poer Trench on the Halton Club machine, but word came in that he had run out of petrol only five miles from home.

The second to arrive was Mr. Hope on the Air Taxi Moth ME. who had done 96.5 m.p.hr., thanks to careful streamlining of his machine and skilful tuning of his old Cirrus Mk. I engine. He had stuck about 9 inches a side onto his wing-tips, which on the comic formula brought his theoretical speed to 80.6 m.p.hr. So you see the fatuity of scientific handicapping.



"TINY."—Mr. E. R. C. Scholefield, who did fastest time and took third place in the King's Cup Race.

The third man in was Mr. Alan Butler on Moth QH. (Cirrus II), which was even more carefully streamlined than Mr. Hope's. His speed over the course was 107.6 m.p.hr., against a formula speed of 85.5 m.p.hr. On this performance he was a certain second to Mr. Jones.

Next came Mr. Sparks on Moth RT. (Cirrus II), with a speed of 101.7 m.p.hr. against a formula speed of 85.5 m.p.hr. On this he looked like being third. But, unfortunately, while filling up with petrol for the second lap, a too-eager mechanic pumping petrol from the pressure-tank in the fuselage to the gravity-feed tank upstairs in the centre-section blew the pressure up so high that it burst



THE FASTEST MACHINE.—Mr. E. R. C. Scholefield on the Vickers Vixen III (Napier Lion) starting his last lap in the King's Cup Race, in which he took third place and did fastest time. —("*Aeroplane*" *photograph.*)

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a seam in the lower tank. Which put the ever-popular Mr. Sparks out of the race, and nearly caused the lynching of the erring assistant.

After Mr. Sparks came Mr. Bernard Martin, so well known in the Eastern Counties as a reliable joy-ride pilot. Mr. Martin's machine (Moth SK.—Cirrus II) was entered by Sir Harold Bowden, chief of the Raleigh Cycle factory, a well-known figure among Nottingham manufacturers. Mr. Martin, with the help of the De Havilland Co., had streamlined the machine almost as well as Mr. Butler's. Unfortunately he went off his course somewhere, so his speed only worked out at 91.8 m.p.hr., though his formula speed was 85.5, the same as that of Mr. Butler and Mr. Sparks with the same wing-span and engine.

The next should have been Mr. Dudley Watt on the Avian (Cirrus II), but he did not arrive. Somewhere about this time Col. Sempill came in on the Bluebird (Genet), without crossing the line. He reported that before getting to Spittlegate his oil thermometer had showed an in-flow temperature of 90 degrees Centigrade, which was more than hot enough for out-flow oil straight from the engine. So he had landed at Spittlegate to let it cool down and had come home. He could not explain the overheating.

He said that before he left Spittlegate Mr. Watt had landed there because he had lost his maps on the outward journey and instead of turning right-hand at Spittlegate and going down to Huntingdon he had gone straight on to the Wash. Realising then that he was on the wrong course he had come back, and having lost so much time had chucked up the race.

Somebody standing by, knowing Mr. Watt's faculty for getting dirtier when working on a machine than any professional mechanic could do, remarked that anyhow he was glad Dudley had gone to the wash. Which was unsympathetic, because we have not enough real amateur pilots of Mr. Watt's class and capabilities.

That being explained, the next arrival was Sqdn. Ldr. Probyn (flying under the pseudonym of "Harold Brooklyn") on Westland Widgeon (Genet) RQ. His speed was 97.2 m.p.hr. against a formula speed of 87.4, which was not enough excess compared with the others to get him a place.

The next arrival was Mr. McDonough, the Midland Club instructor, on Westland Widgeon (Cirrus II) RL. with a speed of 105.3 m.p.hr. against a formula speed of 90.3 m.p.hr., having passed Lady Bailey. He was flying beautifully and his method of landing showed that he was wasting no time. He just shot across the line very low, did a short but not fancy turn, planted his machine well up at the top of the aerodrome, and taxied the shortest way to the filling station. Some pilots landed right in the middle of the ground and had to taxy hundreds of needless yards to re-fill. Mr. McDonough's speed showed that he must have kept a very good course, and that with luck he was good for a place.

Next came Lady Bailey on her Moth (Cirrus II) PU. with a speed of 95.4 m.p.hr. against a formula speed of 89.2. Her machine had not been faked or specially streamlined in any way. Being of the original Moth type it has a smaller span than have the "X" type Moths, which are several miles an hour faster. But the silly formula says that because PU. has a smaller span it ought to be faster than the "X" type. Naturally therefore she had no chance of winning, unless everybody in front of her in the handicap had some trouble or lost their way. But she started, like the good sportswoman she is, to do her best.

One will not vouch for the truth of the story, but it was said that somebody remarked to Lady Bailey before the race that there was no use in her starting because she could not win. To which she replied that at any rate she was going to try to finish, and then added, with her usual gentle manner, "I hope I shan't be in anybody's way."—If the story is not true it ought to be, for it is typical of Lady Bailey's outlook.

Following her after an interval of nearly ¾ of an hour came Mr. Hinchliffe on KO., the Nimbus-engined D.H.9 belonging to A.D.C. Aircraft Ltd. and entered by Lt.-Col. Barrett-Lennard. His speed was 123.5 m.p.hr. against a formula speed of 110.5 m.p.hr. Evidently he had no chance of winning. But being a good sportsman he was out to put up a good show and he did it. And, as one of the finest cross-country (or cross-Continent) pilots in the World he evidently kept a very fine course.

After him came Sq. Ldr. Payn, the Vickers test-pilot, on the Vickers Vespa (Jupiter) LD., with a speed of 122.3 m.p.hr. against the formula's 115.2 m.p.hr., showing that the higher the speed of the machine the smaller the percentage error of the formula, though the amount of the error remained somewhere about 10 to 15 m.p.hr.

The next arrival was Flt. Lt. Bulman on the Hawker Horsley (Condor), bearing No. 7 racing number, but without either Civil registration letters or Service markings,—so that presumably she was an entirely illegal machine which did not exist. His speed was 124 m.p.hr. against the formula's 117.8 m.p.hr.

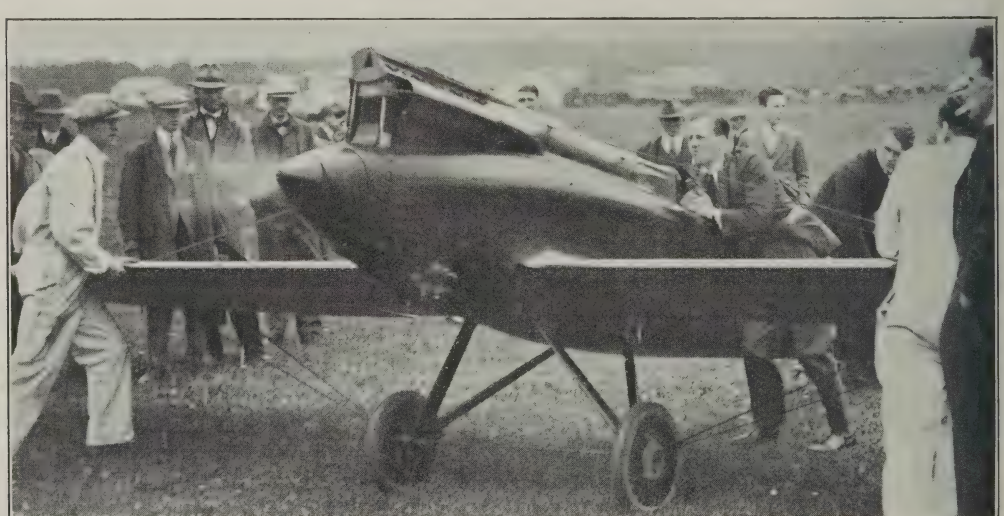
The next should have been Mr. Broad on the Tiger-Moth. Unhappily news had come in some time before that Mr. Broad had landed at Spittlegate, after doing a speed of 162 m.p.hr. over the 26 miles, against the formula's 122.7 m.p.hr.

He was so badly bumped about in the little light machine at top speed that he could not keep on the seat. Every time he was bumped up he took the stick with him and the machine zoomed. Every time the machine caught him up and he banged down on the seat the stick went forward and the machine dived.

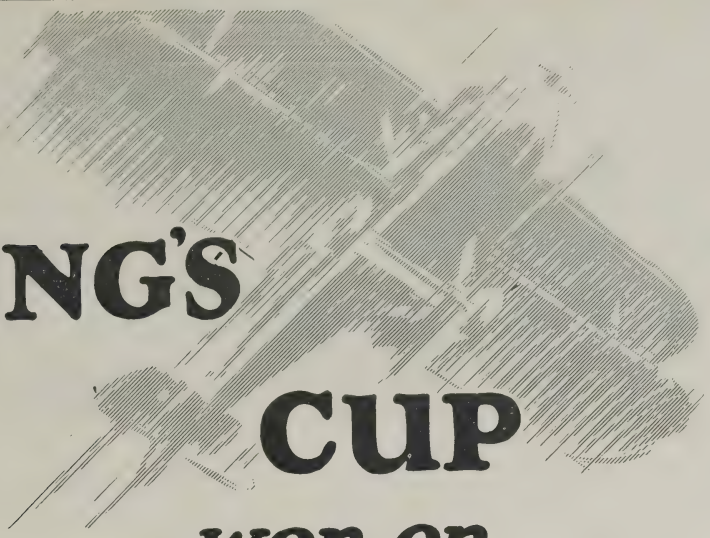
He told one afterwards that he could control the machine all right when cruising at about 140 m.p.hr. (Fancy *cruising* at 140 with 80 h.p.) but that such a speed was no good either for a win or a place, so he decided to land. Which strikes one as being very sensible of him.

Anyhow, with slight alteration in the controls to make it less sensitive, the Tiger-Moth ought to put up a few World's Records for light aeroplanes, and should be,—as Mr. Walker, the technical chief of the D.H. Co., says—very useful for aerodynamic research. Apart from which it is quite the most charming little aeroplane one has ever seen.

A slightly fatter version, with a bigger span and a speed of say 140 m.p.hr., ought to be popular among sport-



HARD LUCK.—Mr. Broad running up the engine of the Tiger-Moth (Cirrus II), which he had to land at Spittlegate. —(*"Aeroplane" photograph.*)



KING'S CUP *won on* SHELL OIL AND PETROL

Mr. W. Lawrence Hope, piloting a D.H.60 "Moth" "Cirrus" Mark I. engine, completed the course of 540 miles in the fast time of 5 hrs. 50 mins. 40 secs.—using Shell Oil and Shell Spirit.

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THE FIRST AWAY.—Mr. Norman Jones, who won the Air League Cup Race at Birmingham, starting first in the King's Cup Race on Saturday on his A.N.E.C. (Bristol Cherub).

ing young pilots who have come to regard the standard type Moth as a cosy touring machine for elderly gentlemen.

Last, but a long way from least, arrived Mr. "Tiny" Scholefield of Vickers Ltd. on Vixen III (Napier Lion) IP., on which he took second place in the King's Cup Race last year. His speed was 144.7 m.p.hr. against the formula's 124 m.p.hr. That was not altogether the formula's fault, for when Mr. Scholefield is out for speed he is apt to go for speed regardless of other factors.

As one of his friends remarked, when the Vixen was about due,—"I bet some of the trees along the course are a bit short of leaves by this time."—And probably it was even so.

Mr. Scholefield landed in his usual faultless but decisive style, and before he had taxied half-way to the filling station his mechanics could hear his instructions, even above the roar of the Napier Lion.

Owing to the shape and slope of the aerodrome and the direction of the wind, all the Moths seemed to float along and bounce in the air before sitting down, whereas some other machines just sat down with a bang and stayed put. So some wag suggested that the aerodrome must have been sprinkled with Keatings as the Moths so objected to settling on it.

THE SECOND LAP.

Before Mr. Jones was due at the end of the second lap, word came in that he had landed at Skegness, having hit a sparrow and damaged his airscrew. Late in the evening a tired Mr. Jones arrived at the hotel, having taken 3½ hours by rail to cover 60 miles which his Anec would have done in 45 mins. or so, and the Tiger-Moth in 20 mins.

He told one that on the second lap of the course he had noticed a smell of burning. So (which was wise) he landed in a cowed field and examined things. He found his airscrew loose on the shaft with a dented edge, a split near the middle, and all charred round the boss. Then he found blood on the blade and a bundle of feathers stuck on a cylinder-head.—Evidently the bird had been hit by the screw, which had split and loosened, and the friction of the boss-plates had nearly set it on fire,—much as the Arab engines in the old Dolphins used to set fire to their airscrews during 1918.

After Mr. Jones had told his sorrowful tale another pilot remarked, "Yes! There were an awful lot of birds about to-day, flying disgracefully low. They ought to be told-off about it."—Anyhow, everybody was very sorry about Mr. Jones' bad luck, for he is one of our genuine amateur pilots and full of pluck and always cheery, so a win by him would have been very popular.

Actually the first man home on the second lap was Mr. Hope. His speed worked out at 90.2 m.p.hr. against 96.5 on the first lap. Which confirmed for the timekeepers the statement of certain pilots that the course had been measured wrongly. But it was not till the speeds of the other pilots were taken that the error could be made certain.

Just after Mr. Butler should have arrived word came in that he had come down with valve trouble only about 8 miles short of Hucknall, and would have his chauffeur go and fetch him.

Consequently the next arrival was Mr. Martin on SK. whose speed worked out at 94.9 m.p.hr. against his 91 m.p.hr. on the properly-measured first lap, and rather confused calculations, for evidently he looked like running into a place.

Ten minutes later in came Sq. Ldr. Probyn on Widgeon RQ., his speed having apparently dropped from 97 to 91.4.

Lady Bailey did not appear when due, and later a message came through that she was down 10 miles from Doncaster with valve trouble. So Capt. Geoffrey de Havilland flew over with a mechanic in his own tame Moth and put the engine right. So late in the evening, much to everybody's satisfaction, Lady Bailey flew in under her own power,—having insisted on flying round the rest of the course!

The fourth man in was Mr. McDonough in Widgeon RL., going strong, but suffering considerable pain because the cushion of his seat had squashed down into the well in which it fitted and the front edge of the well caught him under the legs just where the muscles worked when kicking the rudder about. There was nothing to be done about it, so he went on pluckily to the finish.

The fifth was Mr. Hinchliffe on KO. But the sixth was Mr. Scholefield on the Vixen, who had passed the Vespa and the Horsley, having flown "with his wheels in the corn all the way," as somebody alleged.

The Vespa was now seventh and the Horsley last.



TRUE SPORTSMANSHIP.—The Hon. Lady Bailey starting in the King's Cup Race on Moth PU. (Cirrus II).
("Aeroplane" photograph.)

AVRO AVIAN

MARK II.



1,300 Miles and 79 Landings in one day!

FLYING her Avro "Avian" Mark II, Mrs. Eliott-Lynn, on July 19th, covered 1,300 miles with 79 landings in one day between dawn and dark. Nothing to equal this has ever been done before. The "Avian" landed at every usable aerodrome in England as well as on 20 fields.

Three facts stand clear from this achievement:

1. The "Avian" is the ideal light aeroplane for cross country flying.
2. Lands and takes off with remarkable ease and almost anywhere.
3. Is 100 per cent. reliable.

At the conclusion of the flight Mrs. Eliott-Lynn wired as follows: "Delighted with Avian. Complete comfort throughout. 1,300 miles trail with 79 landings. Machine could have gone on indefinitely."

Write for full details of the "Avian" Mark II.

A. V. ROE & CO., LTD., MANCHESTER.

London Office and Export Dept.: 166, Piccadilly, W.1. Experimental Works: Hamble, Southampton.

THE INTERVAL.

There was a considerable interval between the departure of Mr. Hope on the last lap and the finish, for despite the comic formula the remaining six competitors were drawing closer together. So to relieve the monotony various visitors went into the sky to amuse the crowd.—There really was a crowd. Probably by the middle of the afternoon there were 5,000 or 6,000 of them, for the local papers had boomed the show quite well.

Sq. Ldr. Noakes took up KT, the very first Moth that was ever built, and proceeded to fly it more crazily than ever.

Then Flt. Lt. Fogarty, who had arrived with two other R.A.F pilots on three Avro-Lynxes from No. 2 F.T.S. borrowed an Avian and proceeded to do with it almost all the things which he does habitually with the Avro. The Hinkler-Avro undercarriage must be made of very sound stuff, for it stood up amazingly to his demonstration of how to do about 79 landings in about ten minutes instead of a day. And it landed first on one wheel and then on the other without pulling off a tyre, although it cannot Charleston quite as elegantly as does the undercarriage of its big brother.

One of his tricks which caused quite a sensation was to hang on his airscrew head to wind and descend slowly about 200 feet vertically, without moving forward or backward. M. Verrier used to be fond of the same trick on a Maurice Farman at Hendon in 1913-14, but it is new to the present generation and it is very effective on a modern machine.

Sundry other people also flew, and various visitors arrived by air from various parts of the country. Also Imperial Airways' Handley Page MM. went up and down all day like a lift, taking 12 or 14 passengers a time. Mr. Eskell told one later that they had taken 120 passengers during the afternoon, after having begun proceedings by taking the Mayor of Nottingham for his baptism of the air.

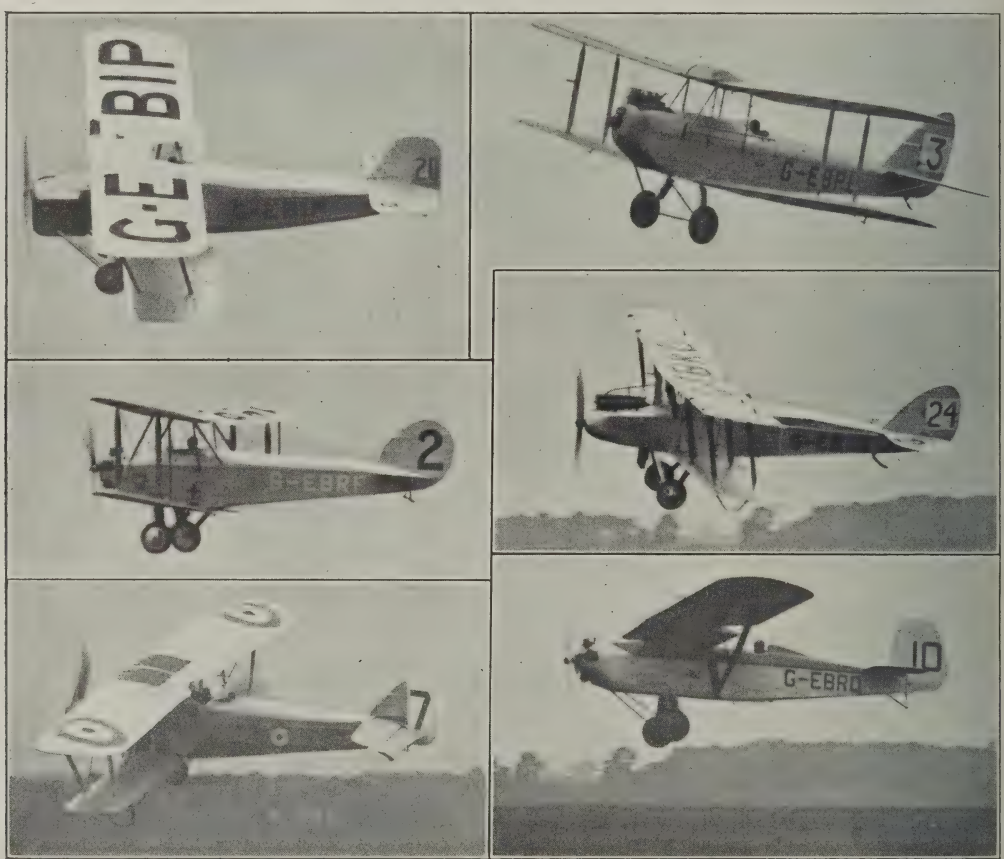
Which reminds one that somewhere about the middle of the morning the Mayor and sundry aldermen or councillors or whatever they were, arrived in state, with robes and gold chains and things, and delivered addresses in a railed-off enclosure into a microphone which broadcast them to a crowd of some 500 people,—all that were present at that hour. The speeches were either intensely intense—as speeches by recent converts to anything are apt to be—or else would-be funny. They would perhaps be worth reporting verbatim if one could produce the dialect as well. Sir Sefton Brancker replied to them all in a high-efficiency speech of about 60 seconds' duration.

There were more speeches after the racing was over but one did not wait for them. While the crowd were waiting for them to begin someone put a hat over the broadcasting microphone to protect it from the rain. An R.A.F. officer gazed at it thoughtfully and remarked, "I suppose the hat is there because it is going to be talked through."—And it was.

The finish was not exciting, for barring accidents Mr. Hope was bound to win He duly crossed the line at 16 hrs. 22 mins. 53 secs., having done 92 m.p.hr. over the lap.

Mr. Lawrence Hope's win was well deserved, for he has done a lot of good work for Aviation. He is only 31 years of age now, but he learned to fly in 1914 at the G. W. Beatty School at Hendon. He flew a great deal during the War 1914-18. After the War he flew consistently well for the De Havilland Co.

Some few months ago he started Air Taxis Ltd. in partnership with Mr. Rex Mundy, with whom he had done a lot of passenger-flying before they became partners. This win ought to give a useful fillip to the business of that essentially

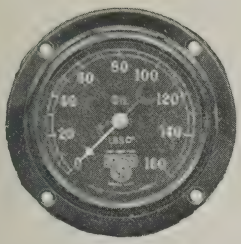


SOME ATTITUDES.—From left to right and from top to bottom :—The Vickers Vixen (Napier Lion engine), Mr. E. R. C. Scholefield; D.H. Moth (Cirrus engine) the Hon. Lady Bailey; Blackburn Bluebird II (Genet engine), the Master of Sempill; D.H.9 (Nimbus engine), Mr. W. G. Hinchliffe; Hawker Horsley (Rolls-Royce Condor engine), Mr. P. W. S. Bulman; and Westland Widgeon III (Genet engine); Sq. Ldr. Probyn.

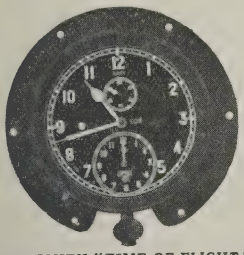
("Aeroplane" photographs.)

SMITH'S

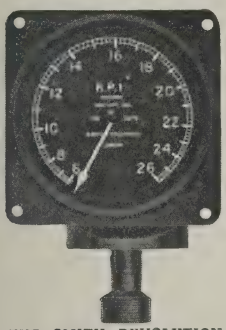
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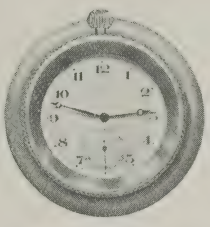


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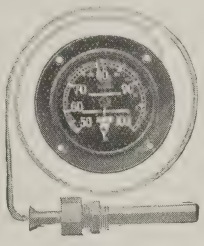


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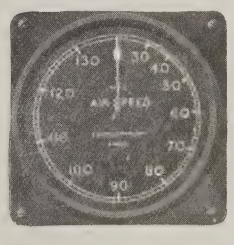
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SBAC — The Society of British Aircraft Constructors

S. SMITH & SONS (M.A.) LTD.,
AVIATION INSTRUMENT SPECIALISTS,
SOLE EXPORT DISTRIBUTORS FOR K.L.G. SPARKING PLUGS.
(Manufactured by The Robinhood Engineering Works, Ltd., Putney, S.W.)
CRICKLEWOOD WORKS, LONDON, N.W.2.

FBI — Federation of British Industries
Incorporated by Royal Charter.



ONE OF THE UNFORTUNATE.—The Vickers Vespa (Jupiter). The long spike-like dog for the Hucks starter, seen in the centre of the airscrew, came unput and forced her to retire when going strong.
("Aeroplane" photograph.)

airworthy firm, for even the soul only just awakened to air-mindedness can understand that the winner of the King's Cup must be a fairly competent aviator.

At 16 hrs. 32 mins. .09 secs. Mr. McDonough crossed the line on the Widgeon, a good second, landed and taxied in as neatly as ever, despite his acute discomfort, and then nearly collapsed—and small blame to him. He had flown a fine race and well deserved the honourable distinction of second place. His speed over the lap was 104.8 m.p.hr.

Everybody was pleased about it, for Mr. McDonough has done very good work under considerable initial difficulties for the Midland Club and has proved himself a very competent instructor. The fact that Mr. R. A. Bruce of the Westland Co. entered the machine in spite of the tragedy at the Bournemouth Meeting will increase the general satisfaction at this result. If the Widgeon cannot claim to be the fastest light aeroplane, since the advent of the Tiger-Moth, it has at any rate put up the fastest time for a normal type suitable for normal pilots to use on a cross-country flight.

Ten minutes or so after the Widgeon's arrival the Vixen appeared, seemingly from amid the tree-trunks on the hill to the South-East of the aerodrome, and crossed the line at 16 hrs. 43 mins. 39 secs. Opinions were divided as to whether we heard the Napier or Mr. Scholefield first. So the Vixen made fastest time for the second year, though only running into third place. Somebody suggested that Mr. Scholefield's favourite hymn must be "We plough the fields and scatter the good seed on the land."

Mr. Hinchliffe came in less than a minute later, at 16 hrs. 44 mins. 36 secs., the old Nimbus-Nine having acquitted herself nobly.

Then came Sq. Ldr. Probyn on the Genet Widgeon, at 16-47-18.

At 16 hrs. 56 mins. Sq. Ldr. Payn landed on the Vespa, without crossing the line. On his way out something had gone bump into his right lower wing-tip and his airscrew had started vibrating. He thought he had hit a crow. But investigation showed that the long tube carrying the dog for the Hucks starter out in front of the airscrew-spinner (which was not fitted) had broken off the studs holding it to the airscrew boss. It had hit and torn the brass tip of one blade of the airscrew, and had then bounced into and torn the wing-tip. Sq. Ldr. Payn was lucky to get back without even a forced landing.

The Horsley came in soon after, Flt. Lt. Bulman taking it easy after he found that he was right out of the race.

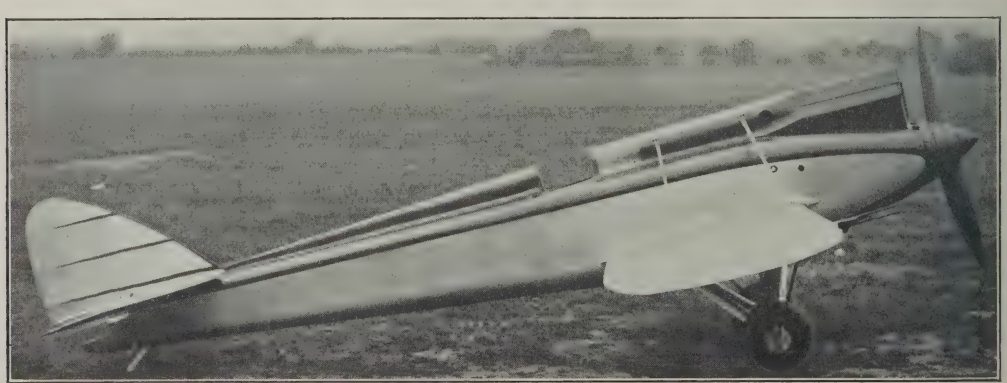
Out of 23 entries for a race of 550 miles, 16 machines started, 4 fell out in the first lap, 4 more fell out in the second lap, and 2 more in the third lap, leaving only 6 to finish out of 23 who intended to do so. A pretty poor showing, is not it? And one hardly calculated to inspire the public with confidence in aeroplanes or aero-engines.

And yet, if we took 23 ordinary cars and put them to run 550 miles round Brooklands *with their throttles wide open*—which is what makes all the difference—how many of them would finish 250 miles? Not very many one believes. If 6 of them finished the full 550 they would be doing very well.

All the same, the King's Cup Race as it exists at present is a farce. No possible form of handicapping can be fair to everybody, whether it is done on a formula or by sheer guess-work. But so long as a formula-handicap does not choke off entries perhaps it is the best way of doing it,—because at any rate it prevents anybody from charging the handicappers with being unfair,—though, as Mr. Crouch remarked grimly, that will not prevent competitors from coming back on him and his department with rude questions about why airworthiness certificates have been issued to some machines and refused to others.

Actually the best thing that could be done with the King's Cup in the interests of the progress of British Aviation would be to give it as a prize for reliability pure and simple.

All machines should be due to start from a certain aerodrome at a certain time allotted to each machine (to avoid starting the lot at once). Any machine not able to start at



"THE INFURIATED PENCIL."—The De Havilland Tiger-Moth (D.H. engine), the sensation of the Nottingham Meeting,—A monoplane with about 115 h.p., which has a speed of fully 175 m.p.hr.
("Aeroplane" photograph.)

KING'S CUP AIR RACE

1927.

FASTEST TIME OF THE DAY
141.6 M.P.H.
by VICKERS "VIXEN III."

Entrant: DOUGLAS VICKERS.
Pilot: Flight-Lt. E. R. C. SCHOLEFIELD.

——who used, as did the winners of every previous KING'S CUP AIR RACE, a standard grade of——

WAKEFIELD
Castrol Regd.
MOTOR OIL

obtainable at any Garage

C. C. WAKEFIELD & CO., LTD.,
All-British Firm, Specialists in Motor Lubrication,
WAKEFIELD HOUSE, CHEAPSIDE, LONDON, E.C.2.

KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

that time would be disqualified, as a sign that its makers were unreliable and not certain to give "service" to customers.

After starting the machines should fly round a given circuit of aerodromes roughly about 100 miles apart for eight hours a day, landing and stopping half an hour at each (just long enough for engines to cool down and distort). Any machine unable to start at the end of the half hour would be disqualified. Any machine forced to land would be disqualified.

Everything would be sealed up except the petrol and oil tanks, and no changes of parts would be allowed—except sparking plugs.

The winner would be the last machine left after all the others had been forced to land or unable to start. Thus you would arrive definitely at the most reliable aeroplane.

And if you wanted to make the competition valuable to the development of Air Transport there might be conditions that machines must average not less than 120 m.p.hr. round the course, and must carry a useful load equivalent to 150 lbs. (a passenger minus luggage) for each nominal 35 h.p. of the engine.—Which is what the Wright-Bellanca did at 133 m.p.hr. three years ago.

Still, even if we have not organised the race so far with any particular aim at producing anything, we have at any rate shown some very good flying. And in our own muddle-headed way we do seem to produce results of some sort.

For example, there must be some significance in the fact that out of six races for the King's Cup four have been won on De Havilland aeroplanes. Either that proves that D.H. machines are very efficient or very reliable or very fast or very good somehow or other,—which most people know to be true. Or else it proves that the De Havilland firm are very lucky,—which is also a point in their favour, if it be true that it is better to be born lucky than good. Or else it means that the De Havilland people are very energetic and enterprising in always putting their machines into races,—which is very much in their favour from the point of view of the buyer who wants "service."

Whichever way you look at it the D.H. people deserve their success,—the more so because probably the firm has the smallest capital of any aircraft firm in the country. The people who hold the capital and the directors themselves are all sportsmen. Mr. Alan Butler, the Chairman, pilots his own racing machines: and Capt. Geoffrey de Havilland had to be forcibly restrained from flying the Tiger-Moth, if reports be true.

If only some of the bigger and wealthier firms which are making vast profits out of Air Ministry orders would spend their money and energy in the same proportion on building experimental sporting and commercial aeroplanes and engines as the D.H. Co. do, and as plenty of firms in America are doing, we should be a long way ahead of where we are now, and we should not be in such imminent danger of losing the trade of the British Dominions overseas to American aircraft as we have lost it to American automobiles.

Just recall one fact.—The De Havilland Company is *The only British aircraft firm* which is selling aeroplanes for Civil Air Transport abroad, either in our own or foreign dominions, in any considerable quantities. Get that into your head and you will see how well the D.H. Co. deserve the distinction and honour of winning the King's Cup.

Here Mr. Dorman takes over again, as one had to spend Sunday writing the foregoing description:—

SUNDAY'S SAINTLINESS.

Sunday was described in the programme as "A day of interest for all." Personally, I would qualify the word "all," but at any rate the Royal Aero Club officials thoroughly enjoyed it. They told me so when I said I thought it rather dull. And after all as long as they enjoyed it that is the main thing, as these meetings are really run for their pleasure.

Anyhow, there was not any racing, which must have pleased the good. Though why racing is less saintly than bomb-dropping or exhibition flying is hard to explain.

There was a rumour current during the day that the Editor, who is so fond of Nottingham, was heard in the hotel the night before giving an order for "bacon and eggs at 9.30 and call me any time the day after to-morrow." I think he was quite right.

[As a matter of fact the poor fellow spent the whole day writing up the King's Cup Race, in an atmsophere of meteorological and moral gloom. Which at any rate kept his mind off Nottingham.—Ed.]

There was joy-riding all the morning on all sorts of craft and Sq. Ldr. Noakes flew in all directions at once on an Avian.

A bomb-dropping contest was organised at 14.00 hrs. The targets were erected one in front of each enclosure and pilots had to drop one flour-bag bomb at each. The targets were sheets of cardboard raised on chairs, which was a good idea, as when the targets are on the ground hardly anybody can see whether there is a hit or not.

Mr. Sparks won the contest. The Master of Sempill



THE MACHINE OF THE MOMENT.—The De Havilland Tiger-Moth (D.H. 115 h.p.), which does at least 175 miles per hour. —(*"Aeroplane" photographs.*)

came in for many congratulations. He was the first off and he dropped his very first bomb plumb in the middle of the target in front of the main enclosure causing tremendous enthusiasm at his skill. He subsequently confessed that he had not seen the target and that the bomb had blown out of his hand before he was ready!

It was then suggested that for the benefit of the 1s. enclosure, which was so far away that none of the occupants had seen an aeroplane or a pilot at all, a wing folding contest should be staged in front of that 1s. enclosure.

Unfortunately it was so far away from the main enclosure that one does not know what happened. But again Mr. Sparks won.

Mr. Bulman then brought out the Hawker Horsley, which looked gigantic towering above the Moths, Avians, Widgeons, etc. Therefore when it proceeded to disport itself by looping and spinning like the small fly all the World was amazed. And curiously enough it does not look a bit awkward, as so many big machines, when stunting. After a fine exhibition flight Mr. Bulman, showing his usual wisdom, flew home to Brooklands.

Somebody then announced that there would be wing walking. Lt.-Col. Henderson's Avro flew round and a passenger in white crawled out of the cockpit and clawed along the bottom plane to the first strut and back, much to the disappointment of the crowd who from familiarity with American films expected to see him get out and stroll nonchalantly about on the top plane.

A parachute descent was then announced. Now, as everyone who has been to an Aero Club meeting knows, the true definition of a parachute descent is "that which appears on the programme only." Therefore I was not a bit surprised to hear in a few minutes an announcement that "owing to the high wind the parachute descent had been postponed." And that in a flat calm.

Going into the official enclosure one discovered that what had really happened was that the parachutist had not parachuted before, and that the Air Ministry requires that everyone must do a "pull off" before a "drop."

[After Mr. Muir's unpleasant experience last year one cannot understand anybody whose business depends on a reputation for safe and cautious flying being so unwise as to associate himself with an exhibition by an untrained parachutist, or even having to do with public parachute descents at all.—C. G. G.]

The ground engineer of the Avro, from which the descent was to be made, rightly considered that the strut of an Avro might not be strong enough to withstand the possible jerk of a pull-off.

Then there was a terrific discussion as to what the crowd should be told. Someone suggested that they should be told that Capt. Lamplugh had refused to insure the machine, to which Capt. Lamplugh retorted, "Why not tell them the truth for once; at worst it would be original!" So this extraordinary course was taken and the truth was told.

Finally there was a balloon bursting competition in which a number of pilots enjoyed themselves by trying to run into toy balloons and burst them.

While this was happening it was announced that Mr. Broad had left Stag Lane at 6 p.m. on the new Tiger-Moth, having previously flown the Cirrus back to Stag Lane from Spittlegate. He arrived at 6.39, having covered the 120 odd miles in 39 minutes.

Later on he gave a short exhibition flight on the machine, showing off its speed to great advantage.

Mr. Norman Jones came back from his meeting with the bird and sat down distinctly hard, slightly damaging his undercarriage. This was repaired by the village blacksmith, or his modern equivalent to the local garage, and the machine was flying the next day.

The day was beautifully fine and clear, but this is not an unqualified advantage for one could thus see hideously-chimneyed Nottingham more clearly than ever.—G. D.

MONDAY'S RACING.

Again one takes up the tale:—

Of course nobody expected a crowd on Saturday because only the initiated appreciate a race in which you only see each competitor at long intervals, and all the competitors keep on dropping in at odd times all day long. The general public cannot be expected to follow the intricacies of such a competition. Therefore the crowd on Saturday, which must have numbered four or five thousand people, was quite large.

Monday being a day of real air racing might have been expected to draw a crowd. Somebody guessed the number at Hucknall as 35,000. If so, they must all have been in the shilling enclosure on the far side of the aerodrome,—which was quite the wrong place to put them, for the people there could see little or nothing and are not likely to go to future air meetings. Funny how the organisers only look at race-meetings from the point of view of the most expensive enclosures.

There were not more than a few hundred cars in the five-shilling enclosure and probably not more than a couple of thousand people. Probably most of the people in Nottingham who can afford cars buy them to get out of the place.

The first race of the day was the Low Power Handicap for engines not exceeding 1,500 c.c. This was called officially "The Papplewick Stakes." There seems no particular reason why air races should be given silly local names in imitation of horse races.

The prizes of £40, £25, and £10, were presented by "Julien Cahn, Esq., M.F.H."—presumably by way of showing that the good old Anglo-Saxon-cum-Norman hunting man can become so modernised as to patronise air racing.

All the machines in this race had Bristol Cherub engines. Flt. Lt. Le Poer Trench was first past the post in the Halton Club biplane, which always looks as if it had got its fingers crossed. He was disqualified for cutting a turning point, so first place went to Flt. Lt. Comper on the Felixstowe-Cranwell (C.L.A.4) biplane. The London Club's Brownie piloted by Mr. Mitchell took second place, with Flg. Off. MacKenzie-Richards on the R.A.E. Club's D.H.53 third. The also ran was Mr. Norman Jones on the A.N.E.C. The winner did 76.75 m.p.h.

The second race was for private owners for prizes of £60, £25 and £15 presented by "Boots the Chemists."

Mr. Bernard Martin on a Moth X (Cirrus II) won the first heat with Col. Sempill second on the Blackburn Bluebird (Genet).

The second heat was won by Lady Bailey on the familiar Moth PU (Devotees of Mr. A. A. Milne should note that Lady Bailey's Christian name is *not* Winifred). Mr. Bramson on a skywriting S.E.5a was second.

The third heat was won by Mr. McDonough, the Midland Club instructor, on the new Widgeon (Cirrus II)—who flew splendidly despite the gruelling he had on Saturday—with Sq. Ldr. Noakes second on a Moth (Cirrus I).

The final was a very fine race. Mr. McDonough beat Lady Bailey by one second with Mr. Bramson third, four seconds behind, and the whole lot were inside six seconds. The winner's speed was 102 m.p.hr.

The third event was the race for the Challenge Cup and prizes of £50 and £25 presented by the Society of British Aircraft Constructors,—for Club machines piloted by members of the Club, the total weight of the aeroplane empty not exceeding 400 kilos.

The race was won by Flg. Off. David Bonham-Carter on the R.A.E. Club's Avian (Cirrus II), at 96 m.p.hr., Capt. Spooner of the London Club was second past the post, but was disqualified for cutting a corner, so the second prize went



"ALAS MY POOR BROTHER."—The Tiger-Moth face to face with a standard Moth, which compared with its sporting little brother is now regarded as a vehicle for elderly gentlemen.—("*Aeroplane*" *photograph.*)



THE LAST EVENT.—The array of Moths, with a Bluebird and a Widgeon, at the start of the final heat in the Grosvenor Cup Race.—(*"Aeroplane" photograph.*)

to Flt. Lt. Comper, on the Felixstowe-Cranwell (Cherub) biplane.

The fourth race was the High Power Handicap,—for any type of aeroplane with engine of not less than 200 h.p. for a First Prize of £100 presented by George Spencer and Co. of Hucknall, and a Second Prize of £50 from the Racing Fund.

Sq. Ldr. H. W. G. Jones won on Lt.-Col. Darby's Boreas-Martinsyde-Nimbus, at 141.2 m.p.hr., beating Mr. Hinchliffe on Lt.-Col. Barrett-Lennard's well-tried D.H.9 Nimbus. Mr. Bramson retired in the second lap.

This one believes is Col. Darby's first winning entry. Congratulations to him. He deserved it, for he has been one of the most hardworking and sensible supporters of the sport of flying ever since the game began after the Armistice.

Col. Darby is also to be congratulated on the fact that not only the King's Cup, but every race at the Meeting was won by engines manufactured, and not merely factored or faked, by A.D.C Aircraft Ltd.

Event No. 5 was a race for women pilots for a prize of £20 presented by Mr. Julien Cahn, M.F.H., and a second prize of £10 presented by George Sands and Son, Ltd., of Colwick.

Mr. Cahn's munificence as a giver of prizes for races suggests that he must be related through some remote ancestor either to Mr. Otto Kahn the famous philanthropist of New York or to the Aga Khan one of our leading supporters of horse-racing.

The race was won by about the length of the engine by Mrs. Eliott Lynn from Lady Bailey, who was set by the handicappers to give the winner a longish start, with Miss O'Brien of the London Club a somewhat elongated third.

A certain amount of amusement of a sort was caused at the start, solely among those on the inside of the air-racing game, by an R.A.F. officer climbing into a fourth machine clad in a skirt covered by a feminine fur coat which is generally very much in evidence whenever public aviation takes place. He was not allowed to start in the race despite his disguise.

ICHABOD.

The last race of the day was that for the Grosvenor Challenge Cup, presented by the Lord Edward Grosvenor for areoplanes with engines weighing not less than 185 lbs. or more than 285 lbs.—the idea of the noble donor being to encourage the production of light aeroplanes.

This has been in the past one of the classic races of the year and has been won by some of our greatest pilots. Thanks to the curious mentality of the Royal Aero Club it has now degenerated into a two-lap scramble over pit-banks and colliery villages. It is enough to make Sq. Ldr. the Lord Edward Grosvenor turn over in his D.H.9a.

The accompanying prizes were :—£60 from the *Nottingham Guardian;* £25 from the Racing Fund; and £15 from Mr. F. W. Perry.

The first heat was won by Col. Sempill, with Mr. Boyes (of the late Seven Club) second in an Avian, the also-rans being Mr. Dudley Watt (Avian), Mr. Martin (Moth), and Mr. Tapper (Moth).

The second heat was won by Sq. Ldr. Probyn (Widgeon), with Lady Bailey (Moth) second, the also-rans being Mr. Sparks (Moth), Mr. McDonough (Widgeon), and Mr. Hinkler (Avian Alpha).

Everybody expected Mr. Hinkler to win this heat. But whether it was the loss of the spinner off his airscrew or whether he was out-handicapped, he lost second place by about two seconds.

The third heat was won by Mrs. Eliott-Lynn (Moth), with Capt. Geoffrey de Havilland (Moth) second, the others being Flg. Off. Bonham-Carter (Avian), and Flg. Off. J. R. Addams, also late of Cranwell (Widgeon).

AN INCIDENT.

Just before the final Mr. Bramson provided the one incident of the day by piling up the S.E.5a.

He was starting back for Town when his engine cut right out owing to the stoppage of the petrol supply from his pressure-feed tank. His choice of landing places lay between thick trees, standing corn, and comparatively soft hedges. He chose the softest hedge and then had the alternative of ramming it at ground level at 70 m.p.h. or deliberately stalling onto the top of it.

So he yanked the machine up at the last moment carried away most of the hedge on his undercarriage, left the undercarriage and a lump of hedge behind, and then turned neatly over on one wing-tip onto its back. The machine



THE GROSVENOR CUP RACE.—The finish,—Capt. Geoffrey de Havilland on his private Moth in the middle, and Sq. Ldr. Probyn (Widgeon) on the right.—(*"Aeroplane" photograph.*)

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was a complete write-off and Mr. Bramson bumped his left temple.

The whole thing was a remarkable example of quick thinking and good judgment. Any attempt to get back to the aerodrome would have meant a complete stall and dive. Unfortunately he had no Savage-Bramson anti-stall gear on the machine, so he could not work an advertisement out of the incident. But as he did not stall till he did so intentionally he would not have received the timely warning which would have been so useful to a less wary and careful pilot.

He returned by train and so escaped the down-pour of rain into which he would have run if he had flown. But one gathers that he did not escape being told "I told you so."

The final of the Grosvenor Cup Race provided a win for Mrs. Eliott-Lynn (Moth) from the long limit mark of 1 m. 41 secs. in 17 miles, with Col. Sempill (Bluebird), who was giving her 12 secs. start, just about that distance behind, and Sq. Ldr. Probyn (Widgeon-Genet), off the 39 secs. mark, a few second behind. The rest of the field were close together.

Among the visitors, distinguished and otherwise, was Mr. Levine, who flew the Atlantic with Mr. Chamberlin. He expressed a desire to buy a Tiger-Moth to take to the States. In view of the extreme novelty of the Tiger-Moth design, which is so simple that it could be very easily copied, the De Havilland Company did not seem particularly keen on doing a deal,—which strikes one as being distinctly sensible.

The programme of the meeting was the worst thing of its kind ever produced. The machines were given racing numbers in the order of their entry for the meeting. And they were indicated by this number all through the programme, instead of by their registration letters, the one thing by which a machine is always identified in correspondence and conversation.

Nowhere did the registration letters appear in the programme. But the officials and handicappers worked to those letters all the same.

Apart from that the machines appeared in the different events in no sort of order at all, neither in order of racing numbers, nor in order of handicap, nor in alphabetical order of pilots, nor entrants nor engines nor machines.

Titles, ranks, initials, orders, decorations, italics, inverted commas and so forth seemed to be slung in haphazard. In fact the whole thing was a kind of printed haggis, such as one might expect at the sports of a village board-school from the shop of a local price-list printer.

Anyhow, the affair is over now, and we are all comfortably back at work in civilised surroundings. And after all, complete change of environment is the essence of a successful holiday.

Apart from that, the Nottingham meeting will be noted in aeronautical history—if anybody wants to note it—for the first public appearance of the Tiger-Moth, and the fine performances put up in the King's Cup Race by Messrs. Hope, McDonough and Scholefield.

Otherwise the less said about it the better. The only reason for saying so much is that people expect a Special King's Cup Issue of The Aeroplane. They have got it, at the expense of a lot of hard work and discomfort on the part of the staff of this paper. One hopes they will like it. We certainly do need more than ever somebody who can organise air race meetings as the ever-to-be-lamented Richard T. Gates used to organise them at Hendon before the War.—C. G. G.

A DESERVED PROMOTION.

In recognition of his exceptional services to Italian aviation and notably for his flights from Rome to Tokyo by way of Melbourne and back to Rome and his more recent flight round the Atlantic, Colonel the Marchese de Pinedo has been promoted to the rank of General.

THE R.Ae.S. AND THE I.Ae.E.

The Institution of Aeronautical Engineers will hold an Extraordinary General Meeting on Sept. 2, at 6.30 p.m., in the Lecture Room of the Junior Institution of Engineers, when the modified terms for amalgamation between the Institution and the Royal Aeronautical Society, will be put forward, and members will have full opportunity of expressing their approval or disapproval. The modified terms of the proposed amalgamation were published in The Aeroplane of July 13.

THE HIGHER EDUCATION AT SOUTH KENSINGTON.

The Department of Aeronautics at the Imperial College of Science and Technology, South Kensington, established in 1920, as part of the scheme proposed by a Committee on Education and Research in Aeronautics, provides by far the best facilities for advanced training in aeronautical science of any establishment in this country.

The Department of Aeronautics concerns itself solely with advanced training. Students are expected to have passed through a systematic training in physics or in one of the branches of engineering and to have attained a high standard of mathematical knowledge, such for instance as that required for the attainment of the degree of B.Sc.

The ordinary course of study ordinarily lasts two years, but a special course of advanced study lasting only one year has been arranged for the benefit of those who can spare only that period.

The staff of the Department consists of :—

Prof. Leonard Bairstow, C.B.E., F.R.S., A.R.C.S. (Zaharoff Professor of Aviation and Director of the Department); Sir Gilbert T. Walker, C.S.I., Sc.D., Ph.B., F.R.S. (Professor of Meteorology); Mr F. T. Hill, A.F.R.Ae.S., M.I.Ae.E., (Assistant Professor of Design and Superintendent of Drawing Office); Col V. C. Richmond, O.B.E., B.Sc., A.R.C.S., A.F.R.Ae.S. (Lecturer on Airships); Mr. A. P. Rowe, Esq., B.Sc., A.R.C.S., D.I.C., A.F.R.Ae.S. (Lecturer on Air Navigation and Instruments); Mr. W. S. Farren, M.B.E., M.A. (Lecturer on Strength of Structures); Mr. H. Moss, D.Sc., A.R.C.S., D.I.C., and Mr. W. J. Stern, B.Sc., A.R.C.S., D.I.C (Lecturer on Engine Design); Mr. E. W. Bliss, M.A., B.Sc., and Mr. T. Tanner, A.C.G.I., D.I.C. (Demonstrators); Miss B. M. Cave-Brown-Cave, M.B.E., A.F.R.Ae.S., and Miss E. D. Lang, M.A., A.F.R.Ae.S. (Professors' Assistants), and Mr. G. F. Locke (Workshop Assistant).

In addition to this regular staff, lectures on special subjects are given by the professors and lecturers of the Imperial College, and by external authorities.

AEROPLANE PHOTOGRAPHS.

Copies of The Aeroplane photographs may be obtained from the Editorial Office of The Aeroplane, 175, Piccadilly, W.1, 6 in. by 8 in., at 2s. 6d. each, post free.



AN IMPRESSION OF SPEED.—Sq. Ldr. H. W. G. Jones, M.C., winning the High Power Handicap on the A.D.C. Boreas-Martinsyde (A.D.C. Nimbus engine).—*("Aeroplane" photograph.)*

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THE ROYAL AIR FORCE.

The London Gazette.

July 26.

General Duties Branch.—Lieut. C. I. A. Jackson (Royal Tank Corps) is granted a temp. comn. as Flg. Off. on seconding for four years' service with the R.A.F. (July 16).

The following are granted S.S. comns. as Plt. Offs. on probation, with effect from, and with seniority of, July 18:—P. G. J. Atkinson; I. B. Beesley; F. T. K. Bullmore (Sec. Lt. R.A. (T.A.)); H. Box, R. W. M. Clark; A. R. Combe; H. J. Cross; F. D. Dawson; G. Fachiri; C. E. V. L'E. Feasey; A. R. Grenfell; G. K. Horner; G. R. Jackson; K. E. Jones; D. J. Hughes-Morgan; J. R. Mathews; U. H. Mignon; A. P. Miller; F. W. Murison; F. J. Sarsfield-Samson; M. G. Sedorski; G. E. E. Singleton; V. S. W. Smyth; B. G. Thompson; O. G. Williams; P. W. M. Wright. L. M. Woolveridge is granted a S.S. comn. as Plt. Off. on probation, with effect from July 20, and with seniority of July 18.

The following Plt. Offs. on probation are confirmed in rank:—J. R. Mutch (July 1); B. H. Ashton; B. A. J. Crummy; R. C. Edwards; H. V. Forbes; R. C. Greenhalgh; R. G. Hennessy, D.S.O., M.C.; D. K. Hewison; H. C. Marett; M. M. Restall-Little (July 14); W., G. Cheshire (July 28).

Group Captain M. G. Christie, C.M.G., D.S.O., M.C., is restored to full pay from half pay (July 23); Flt. Lt. S. C. Harker is transferred to the Reserve, Class A (July 27).

Stores Branch.—Flt. Lt. T. G. Bowler is granted a perm. comn. in this rank with effect from June 24, 1926, on completion of probationary service.

Medical Branch.—Flg. Off. G. A. Ballantyne, D.F.C., is promoted to the rank of Flt. Lt. (Dental) on promotion to Captain in the Army Dental Corps (July 1); Flt. Lt. J. J. Walsh is transferred to the Reserve, Class D.1 (July 27). Flg. Off. M. J. Marren, M.B., is dismissed the Service by sentence of General Court Martial (July 6).

Reserve of Air Force Officers.—General Duties Branch.—G. E. Langdon is granted a commission in Class AA. as a Plt. Off. on probation (July 11); H. W. Foote is granted a commission in Class C as a Flg. Off. (July 26); Flt. Lt. H. G. Brackley, D.S.O., D.F.C., is promoted to the rank of Sq. Ldr. (July 26).

The following Flg. Offs. are promoted to the rank of Flt. Lt. (July 26):—W. R. G. Atkins, O.B.E., R. W. Reeve, D.F.C., M.M., H. S. Robertson,, R. M. Stirling, A.F.C., B. P. B. Carter, D.F.C.

The following Plt. Offs. are promoted to the rank of Flg. Off.:—L. S. Ash (May 30); E. P. Lash (July 4); C. E. F. Riley (July 11); J. R. W. Alexander (July 13); J. H. A. Wells (July 18); N. M. Browning (July 19).

Flg. Off. J. H. Taylor is transferred from Class B. to Class C (July 24). Flg. Off. A. M. Glover resigns his commission on appointment to a commission in the Auxiliary Air Force (July 12).

Auxiliary Air Force.—General Duties Branch.—The following to be Flg. Off.:—No. 605 County of Warwick (Bombing) Sqdn.—A. M. Glover (July 12).

Appointments.

Week ending Aug. 1.

General Duties Branch.—Wing Commanders E. R. L. Corballis, D.S.O., O.B.E., to No. 21 Group, H.Q., West Drayton, for Air Staff duties, 1/8. E. W. Norton, D.S.C., to No. 58 Sqdn., Worthy Down, pending taking over command, instead of to No. 7 Sqdn., as previously notified, 28/7.

Squadron Leaders M. L. Taylor, A.F.C., to No. 29 Sqdn., Duxford, 18/7. H. M. K. Brown, to Record Office, Ruislip, 30/7.

Flight Lieutenants G. H. Cock, M.C., to No. 39 Sqdn., Spittlegate, 2/8. A. T. K. Shipwright, D.F.C., to No. 25 Sqdn., Hawkinge, 2/8. F. F. Inglis, to No. 1 School of T.T. (Apprentices), Halton, 1/8. J. A. Glen, D.S.C., to R.A.F. Depot, Uxbridge, 28/7. G. C. Gardiner, D.F.C., to Air Ministry (D. of T.), 28/7. C. F. Horsley, M.C., to No. 12 Sqdn., Andover, 6/8. L. J. Riordan, A.F.C., to R.A.F. Base, Calshot, 2/8. C. D. Pyne, to No. 23 Group, H.Q., Grantham, 2/8.

Flying Officers J. V. Reeve, to No. 1 School of T.T. (Apprentices), Halton, 27/7. G. I. C. Peacocke, to R.A.F. Depot, Uxbridge, 20/6. L. G. Rumsey, to Andover, Communication Flight, 20/7. H. M. G. Parker, to Home Aircraft Depot, Henlow, 15/7. R. H. Haworth-Booth, D.F.C., to No. 603, City of Edinburgh (B) Sqdn., Turnhouse, 22/7. S. J. Stocks, to H.Q., Coastal Area, 2/8. G. J. C. Mahony, to No. 601, County of London (B) Sqdn., Hendon, 15/7. C. H. G. Bremridge, to No. 5 F.T.S., Sealand, 21/7.

Pilot Officers J. W. Stevens, to No. 2 F.T.S., Digby, 22/7. L. F. Woolveridge, to R.A.F. Depot, Uxbridge, on appointment to a S.S. Comn. (on probation), 20/7. L. H. Smith, to E. and W. School, Flowerdown, 25/7. R. J. Legg, to School of Army Co-operation, Old Sarum, 14/7. C. K. Turner, to R.A.F. Depot, Uxbridge, 11/7.

Medical Branch.—Flight Lieutenants J. B. Gregor, to R.A.F. Base, Mediterranean, 14/7. T. Sheehan, to R.A.F. Station, Donibristle, 22/7.

Flying Officer (Dental) H. J. Eagleson, to R.A.F. Depot, Uxbridge, on appointment to a Temp. Comn., 13/7.

Stores Branch.—Squadron Leader H. S. F. T. Jerrard, to School of T.T. (Men), Manston, 25/7.

Pilot Officer P. H. Wilcox, to R.A.F. Depot, Uxbridge, 25/7.

Accountant Branch.—Flight Lieutenant J. Sullivan, to E and W. School, Flowerdown, 2/8.

Flying Officers W. E. V. Richards, to M.A.E.E., Felixstowe, 1/8. C. W. Price, to H.Q., Coastal Area, 21/7.

Fatal Accidents.

The Air Ministry regrets to announce that as the result of an accident at Farnborough to a Bristol Fighter belonging to No. 13 (Army Co-operation) Squadron, Andover, on Aug. 1, the pilot of the aircraft, Flg. Off. A. G. Boon, and the passenger, L-AC. S. M. Vincent, were killed.

The Baltic Cruise.

On July 20, the Secretary of State for Air announced that a flight of flying-boats would leave Felixstowe on a Baltic Cruise. It is now understood that the cruise will begin on Aug. 12, and that three flying-boats will be under the command of Wing Cdr. R. B. Maycock, O.B.E., R.A.F.

Sir Samuel Hoare will be a passenger as far as Copenhagen, where he will visit the Danish Aero Show which will open on Aug. 20.

The flight will proceed from Felixstowe to Esbjerg, Oslo, Copenhagen, Dantzig, Helsingfors, Stockholm, Copenhagen and back to Felixstowe.

The flight will consist of three of the latest experimental flying-boats, the Blackburn Iris (three Rolls-Royce Condors), the Saunders Valkyrie (three Rolls-Royce Condors) and the Short Singapore (two Rolls-Royce Condors).

The Flight to the East

It is reported that a fresh attempt to fly to India will be made in September by Flt. Lt. C. R. Carr, D.F.C., R.A.F., on a Hawker Horsley (Rolls-Royce Condor engine) and it is probable that Flt. Lt. P. H. Mackworth will accompany him as navigator.

The R.A.F. Cadet College.

Hereafter follows the Report of Air Commodore F. C. Halahan, C.M.G., C.B.E., D.S.O., M.V.O., Air Officer Commanding the R.A.F. Cadet College, at the passing-out inspection by the Secretary of State for Air of Flight Cadets, July, 1927:—

The total strength of the Cadet College is 98, of whom 18 are due to pass out this term.

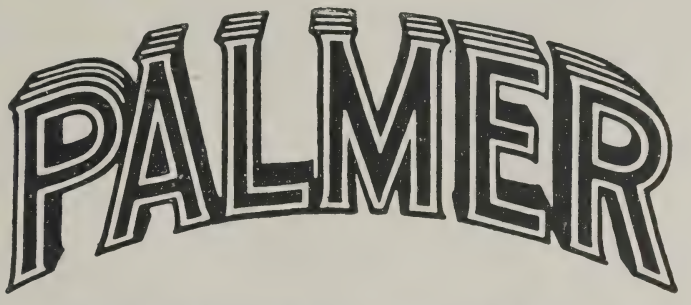
Bad weather has seriously interfered with the flying this term,



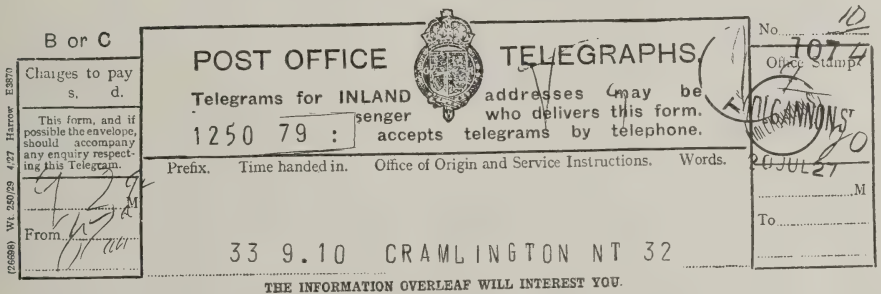
ON THE SQUARE.—The Cadets at Cranwell on Parade at the Passing-Out Inspection by Sir Samuel Hoare on Friday, July 29.

Mrs. ELLIOTT LYNN

on 19th July set out alone from Woodford Aerodrome, at 3.30 a.m., reaching Newcastle at 9.30 p.m., having landed in every usable Aerodrome in England and in twenty fields as well, on an Avian Aeroplane equipped with



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but the Cadets now due to pass out have averaged 84 hours' flying, of which 27 hours have been solo on Service types.

There has been a decided improvement in the application of Flight Cadets to Aeronautical Engineering. There are still some Flight Cadets who, on joining the College, have practically no knowledge of mathematics and consequently find themselves at a disadvantage. It is only by intensive study and concentration in class that they can hope to overcome their handicap.

In History and English the term passing out has worked well, though in some cases insufficient initiative has been shown in the historical exercises.

Two hundred books have been added to the College Library, which is now regularly used by Flight Cadets for private reading in history and science. The College Debating Society is flourishing, mainly through the voluntary support of Flight Cadets in the senior terms.

Great improvement has been shown in sending and receiving the Morse Code. Many of the I Term Cadets are already 75 per cent. efficient on passing-out standards.

The general progress of Cadets in Air Pilotage is very satisfactory. This has been helped by the re-compilation of the syllabus on a more practical basis, and that there has been no change of instructors.

Approximately thirty hours' instruction in Practical Navigation in the air has been given to date. All Cadets who have been taken for a flight have learned a great deal more than can be taught in lectures, especially with regard to their general confidence in flying by navigational methods.

The IV Term has completed the Armament Syllabus, which includes pistols, rifles, and both machine-guns. The theoretical knowledge in these weapons is very high, and a good all-round standard has been obtained on the ranges.

The discipline has been good and the Under-Officers and Non-Commissioned Officers have performed their duties in a most satisfactory manner.

During the present term the general health of the Cadets has been excellent. Seven Cadets were admitted to the R.A.F. Hospital, Cranwell, as the result of motor-cycle accidents.

Owing to the temporary nature of the buildings of the Cadet College, more reconditioning is required each year to maintain them in a satisfactory state of repair. It is to be hoped that the work in connection with the building of the new Cadet College will commence in the near future, as the College loses in efficiency in the absence of permanent buildings.

Physical Training and Games.

Physical Training.—The standard of physical training remains high. The keenness displayed by Cadets in their second year, however, leaves room for improvement.

Skill-at-Arms.—Out of the 7 matches played during the season 1926-1927, the Cadets' Team has won 2, including that with R.M.A., Woolwich. A fixture has been arranged with the R.M.C., Sandhurst, next season.

The standard of proficiency in Skill-at-Arms has been high.

At the Royal Tournament, 1927, all three of the Cranwell competitors in the Cadets' Class reached the final pools in their respective weapons, the Sabre versus Sabre being won by Flight Cadet G. N. E. Tindal-Carill-Worsley.

Boxing.—The two Cadets who entered for the annual invitation competitions at the Belsize Boxing Club in March, 1927, gave a very good account of themselves; Flight Cadet J. H. L. Dillon-Trenchard winning the Heavy-weight competition after three good fights.

More interest could, however, be taken by Cadets as a whole in the subject.

Cricket.—Only two matches were lost during the season by the First XI out of eighteen games played; four matches were drawn and twelve won. For the first time a match was played against the "Adastrians," who were beaten after their collapse in the second innings. The Second XI has also enjoyed a more successful season than last year, having won six matches and lost one.

Rowing.—Rowing has been continued this year again, and for the first time an Inter-Squadron Contest has been held, and the winners are allowed to count 5 points towards the Chimay Cup. The College Four has competed at Burton, Derby and Nottingham Regattas.

Athletics.—The standard attained at the Inter-Squadron Sports was equal to the best results of previous years, although no College records were broken.

The first Triangular Contest between Woolwich, Sandhurst and Cranwell took place at Queen's Club in May, and was honoured by the presence of His Majesty the King. The result was a win for Sandhurst, Cranwell being second.

Hockey.—Twelve matches were played during the season, six being lost and six won. The match against Sandhurst being lost, and the match against Woolwich being a draw.

Beagles.—The Beagles have been out regularly on Mondays and Fridays throughout the season. Hunting conditions have not been good generally, and only three brace of hares were killed, but the season included several brilliant runs and the fields have been large.

Inter-Squadron Competitions.

All Inter-Squadron Competitions have taken place this term, except Rugby and Association Football, which were decided before Christmas.

The Chimay Cup for Inter-Squadron games has been won by "A" Squadron, the scores being :—"A" Squadron 30 points, "B" Squadron 10 points.

The Trenchard Cup for Service subjects resulted in a draw, the scores being :—Each Squadron 32½ points.

"A" Squadron gains the title of Champion Squadron-at-Arms, and is therefore entitled to parade on the right of the line, scoring 62½ points to "B" Squadron's 42½ points.

I wish to place on record my appreciation of the able manner in which Officers, Civilian Professors and Lecturers, and Non-Commissioned Officer Instructors, have assisted me in carrying out the Syllabus of Instruction as laid down by the Air Ministry.

A cup for Inter-Squadron Shooting has been very generously given to the Cadet College by Sq. Ldr. A. Coningham, the Officer Commanding "B" Squadron.

Awards.

The Sword of Honour, presented to the best all-round Flight Cadet in the Senior Term, has been awarded to :—Flight Cadet Under Officer F. R. Worthington.

The R. M. Groves Memorial Prize, for the best all-round Pilot in the Senior Term, has been awarded to :—Flight Cadet J. W. Gillan.

The Abdy Gerrard Fellowes Memorial Prize, for the Flight Cadet obtaining the highest total marks in Mathematics and Science, has been won by :—Flight Cadet Under Officer F. R. Worthington.

The Prize awarded to the Flight Cadet in the Senior Term obtaining the highest marks in Humanistic Subjects, has been awarded to :—Flight Cadet Under Officer J. A. H. Louden.

The Prize awarded to the Flight Cadet in the Senior Term obtaining the highest marks in Aeronautical Engineering has been awarded to :—Flight Cadet C. McK. Grierson.

The Inter-Squadron Drill. (No Cup)—"A" Squadron, 157 points to 143 points.

The Inter-Squadron P.T.I. Cup presented by Flt. Lt. Knocker.—"B" Squadron, 173½ points to 167 points.

The Inter-Squadron Hockey Cup.—"A" Squadron, 7 goals to 4 goals.

The Inter-Squadron Cross-country Cup.—"A" Squadron, 333 points to 492 points.

The Inter-Squadron Cricket Cup.—"B" Squadron.

The Inter-Squadron Swimming Cup.—"B" Squadron, 17½ points to 8 points.

The Inter-Squadron Skill-at-Arms.—"A" Squadron.

The Inter-Squadron Boxing Cup.—Draw, 2½ points to 2½ points.

The Inter-Squadron Tennis Cup.—"B" Squadron.

The Inter-Squadron Pistol Shooting (No Cup).—"A" Squadron, 512 points to 426 points.

Rowing Trophy.—"A" Squadron.

The Chimay Cup.—"A" Squadron, 30 points to 10 points.

The Trenchard Cup.—Draw, 32½ points to 32½ points.

Champion Squadron-at-Arms.—"A" Squadron, 62½ points to 42½ points.



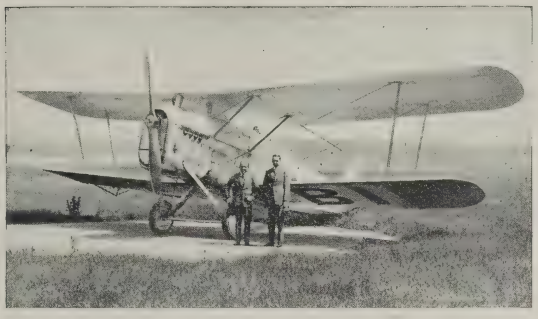
OUR AIRMEN.—Aircraft Apprentices at Halton on Parade at the Passing-Out Inspection by Sir Samuel Hoare on July 28.

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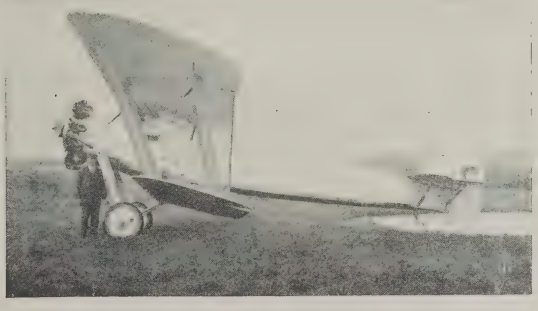
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The Passing-Out Inspection at Halton.

The Annual passing-out inspection of Aircraft Apprentices was held on July 28, by the Secretary of State for Air, at Halton.

In his speech to the Aircraft Apprentices Sir Samuel Hoare said that the experience of the last five years had amply justified the foundation of Halton. Trade Union leaders had declared that the technical training reached a standard that compared favourably with the technical training in any of the great union industries. Distinguished foreigners thought Halton the most remarkable air training centre in the World. And Commanding Officers in all parts of the World had told him what a great difference the well-trained Halton boys made to the efficiency of a Squadron.

The Commandant's report was as follows :—

This Entry is the tenth to Pass-out into the Service on completion of the course of Apprenticeship Training. Of the 515 originally enlisted :—49 were posted to Flowerdown for training as Wireless Operator Mechanics. 30 have been discharged on Medical or Compassionate grounds, by Purchase, or as "Unlikely to become Efficient Airmen." 2 have died and 1 deserted. 3 have been transferred to, and 7 from, other entries, leaving 437 due to Pass-out now.

These have been trained as :—Fitters, Aero-Engine, 215; Fitters, Driver, Petrol, 47; Fitters, Armourer, 29; Coppersmiths, 39; Carpenter Riggers, 103; Carpenter Motor Body Builders, 4.

A full report upon the three years' work which this Entry has just completed has been sent to the Air Ministry. There is not time to read this report now, but I will mention the principal points.

This Entry received the first two years of the Training at Cranwell The last year of the course was spent at Halton, but the Cranwell Syllabus of Training was continued, for this Entry, unaltered.

The standard of Discipline of the Entry is good, but the ideal aimed at has not yet been attained. There are not as many Apprentices of out-standing ability in this as in previous entries, but the general efficiency is high and of a very Uniform standard.

In the case of the Carpenter Riggers a better balance has been obtained between the Rigging and the Construction sides of the Training, than in any previous Entry.

The Educational Results are satisfactory; the improvement shown by boys who appeared very backward upon entry being particularly noticeable.

The General Health of the Entry has been good, no diseases have taken an epidemic form. The average increase in height is 3.11 inches, and in weight 25.2 lbs.—a very commendable standard of development during the three years. The standard of Physical Training and Games is good, but more instructors for the former, and Playing Fields for the latter, are required. It is expected that the introduction of Inter-Dormitory matches will be very beneficial.

The Results of the Final Examination, the principal part of which was conducted by the Central Trade Test Board, are as follows :—AAs. Classified as L-AC., 34; AAs. Classified as AC.1., 158; AAs. Classified as AC.2., 223; AAs. Failed, 16; AAs. Not Examined, 6.

Cadetships.—Cadetships have been offered to :—365363 Hester, H. H. C., 365459 Crocker, L., 365487 Lewis, H. P., 365282 Lane, E. W., 365141 Lucy, R. S.

Advanced Course for Corporals.—The undermentioned are retained for the Advanced Course :—365485 Jobbins, L., 365565 Oldroyd, S., 365470 Hay, L. R., 365425 Gilby, F. C., 365501 Leigh, E., 365462 Tipple, E. F., 365496 Mason, K. V., 365253 Kirkland, G. L., 365429 Grundy, D. H., 365568 Roberts, F. W. D.

Awards.—The following is the list of the Awards offered by the Air Ministry :—*Grand Aggregate*, 365282 Lane, E. W.; *Educational Subjects*, 365282 Lane, E. W.; *Best Fitter, Aero-Engine*, 365501 Leigh, E.; *Best Fitter, Driver, Petrol*, 365481 Willoughby, M. W.; *Best Fitter, Armourer*, 365565 Oldroyd, S.; *Best Coppersmith*, 365356 West, L. J. T.; *Best Carpenter Rigger*, 365282 Lane, E. W.

The Elliott Memorial Prize.—The Elliott Memorial Prize for the year 1927, offered by the Council of the Royal Aeronautical Society, has been awarded to :—365150 Buckler, T. W.

The Electrical and Wireless School.

A Passing Out Inspection of Aircraft Apprentices of the September, 1924, Entry, was held at Flowerdown on July 25 by Air Vice-Marshal Sir John Higgins, K.B.E., C.B., D.S.O., A.F.C., R.A.F.

Group Capt. R. P. Ross, Commandant of the Electrical and Wireless School, made the following report :—

This is the sixth Passing Out Inspection of Aircraft Apprentices who have been trained at Flowerdown.

Altogether there are 259 Aircraft Apprentices under training at Flowerdown (exclusive of this Passing Out Entry). 196 of these are being trained as Wireless Operator Mechanics, and 63 of these are being trained as Electricians.

The standard of Discipline and Drill maintained by the present Passing Out Entry has been very good. The Health of the Aircraft Apprentices, on the whole, has been very good.

A high Standard has been maintained in the Technical Sections and Workshops, and the whole of the Syllabus has been covered. The Voluntary Evening Classes have been very well attended and every Aircraft Apprentice has successfully operated Wireless Instruments in the Air. A satisfactory Educational Standard has been maintained by this Entry.

This Entry has maintained a high Athletic Standard. Several would have represented the Unit at the R.A.F. Athletic Championships, but were prevented from doing so due to the C.T.T.B. Final Examination coinciding with these events. Eight Aircraft Apprentices of this Entry were members of the Aircraft Apprentices' Football XI, which won the Southampton Minor Cup last year. A number of them have played in the Unit Rugby, Hockey and Cricket Teams.

Keenness has been shown in the Gymnasium and the Miniature Rifle Range, and there is promise of several gymnasts and marksmen of merit.

Of the present Entry :—9 have passed out as Leading Aircraftsmen. 24 have passed out as Aircraftsmen, First Class. 14 have passed out as Aircraftsmen, Second Class. There have been two Failures.

A Cadetship has been offered to 365567 Phillips, R. L., who is also the winner of the Hyde-Thomson Memorial Prize, kindly awarded by R. D. Hyde-Thomson, Esq.

The following are retained for the Advanced Course with a view to passing out as Corporals :—365630 Farnsworth, T. H., 365546 Woffinden, J. H., 365259 Honey, F. T., 365144 Bridge, B. H.

No. 365630 Farnsworth, T. H., wins the Prize offered by the Air Ministry for the Aircraft Apprentice who obtains the Highest Aggregate Marks in all Sections.

No. 365546 Woffinden, J. H., wins the Prize offered by the Air Ministry for the Aircraft Apprentice who obtains the Highest Marks in Technical Subjects.

No. 365336 Rogers, F. C., wins the Prize offered by the Air Ministry for the Aircraft Apprentice who obtains the Highest Marks in Educational Subjects.

THE MARATHON RACE.

The Marathon Race for the A.A.A. Marathon Challenge Trophy was held on July 30 from Manchester. Hitherto the Polytechnic Harriers' Marathon from Windsor to London has been regarded as the A.A.A. Championship, but this year the title went with success in the Manchester race, which was held over the proper Marathon distance of 26 miles 385 yards.

The Trophy was won by L-AC. S. Ferris (R.A.F., Uxbridge), the holder of the Trophy, his time being 2 hrs. 48 mins. 46.2-5 secs., which was 11½ minutes better than the second man.

AIR AFFAIRS IN PARLIAMENT.

WARSHIPS AND AIRCRAFT.

In the House of Commons on July 22, in reply to CMDR. BELLAIRS, the FIRST LORD OF THE ADMIRALTY said that only one case of a British warship being ordered to search for missing aircraft had been recorded at the Admiralty this year, the case in question being that of the French airman, Nungesser.

THE SCHNEIDER TROPHY.

In the House of Commons on July 27, in reply to a question by COL. DAY, the UNDER SECRETARY OF STATE FOR AIR said that three of each of the Supermarine-Napier and Gloster-Napier high-speed machines had been built or were being built for experimental work. Three Supermarine and two Gloster machines together with a Short seaplane fitted with a Bristol engine would be sent to Venice to be tested out in the Schneider Cup race. An aircraft carrier and four destroyers would visit Venice at the time of the race, and it had been arranged with the Admiralty that they should give such assistance as might be possible to the British team. He thought the team would have about a week to practise over the course.

THE R.A.F. MAGAZINE AT AMMAN.

In the House of Commons on July 27, in reply to a question by COL. DAY, the SECRETARY OF STATE FOR AIR said that telegraphic reports received from Palestine stated that the rubble wall surrounding the explosive store at Amman had been demolished in the recent earthquake. No damage to the store itself had been reported.

NIGHT FLYING IN KENT.

In the House of Commons on July 27, in reply to a question by MR. MACKINDER, the SECRETARY OF STATE FOR AIR said that if the defence of London by air was to be efficient, night-flying practice from the aerodromes allotted to units comprised in the scheme of defence was essential. He feared it was impossible to avoid disturbance to people living in the vicinity of such aerodromes, but the disturbance was, and would be strictly limited to that which was unavoidable if training was not to suffer.

[Complaints of the noise of aeroplanes from people who choose to live near aerodromes are about as reasonable as would be complaints of the noises of trains from people who choose to live near railways. One cannot imagine the night expresses being stopped because they wake a few silly old men. The remedy for the objectors seems to lie with a furniture-removal firm rather than with the Air Ministry. The new houses which are crowding round all our aerodromes—because they assure light and air—seems to indicate that most people do not mind the noise, or are educating airminded children.—C. G. G.]

STARRING THE R.A.F.

In the House of Commons on July 28, in reply to a question by MR. HORE-BELISHA, the SECRETARY OF STATE FOR AIR said that a decision had been reached by the Contracts Dept. of the Air Ministry with regard to the application submitted by a number of film companies with a view to the production of an Air Force film, and negotiations were now in progress with the firm to whom it was proposed to entrust the production of the film.

[One had hoped that despite the need for airmindedness, and this age of advertisement, we might have been spared this.—C. G. G.]

THE CAIRO—BASRA AIR ROUTE.

In the House of Commons on July 28, in reply to LT.-CMDR. KENWORTHY, the UNDER-SECRETARY OF STATE FOR AIR said that permission had not been received from the Persian Government for British aeroplanes to fly over Persian territory. A regular fortnightly service was in operation in each direction between Cairo and Basra *via* Baghdad.

The total number of flights performed since the inauguration of the service had been 46. The number of passengers and weight of mails up to June 30 had been :— Cairo—Gaza, passengers 57, mails 518 lbs.; Gaza—Baghdad, passengers 44, mails 6,110 lbs.; Baghdad—Basra, passengers 71, mails 1,461 lbs.; Basra—Baghdad, passengers 95, mails 1,651 lbs.; Baghdad—Gaza, passengers 74, mails 6,268 lbs.; Gaza—Cairo, passengers 70, mails 5,987 lbs.

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3rd.	Mr. H. Brooklyn.	Westland Widgeon

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FRANK BARNARD.

On the afternoon of Thursday, July 28, F. L. Barnard, the chief pilot of Imperial Airways Ltd., was killed at Winterbourne, near Filton, while testing the Bristol Badminton which had been entered by Sir Stanley White of the Bristol Company for the King's Cup Race.

This was the same machine which he flew in the King's Cup Race last year and it had been considerably cleaned up for this year so that it stood a very good chance of putting up fastest time.

A statement issued by the Bristol Company says :—

The machine was last seen from the aerodrome at a height of about 200 ft., when it was noticed to be descending steeply. On arrival at the scene of the accident the machine was discovered to be a complete wreck and the pilot dead. Until an investigation of the wreckage is made by the Air Ministry Accidents Investigation Department it will be impossible to give reasons for the cause of the accident.

At the inquest on July 29 a verdict of Accidental Death was returned.

Major Beaumont, solicitor for Imperial Airways, said "Capt. Barnard was not only one of the most magnificent of the World's airmen, but a most devoted employee. He leaves a gap in the world of aviation that cannot be filled."

Mr. C. F. Uwins, chief pilot of the Bristol Co., said that he thought that after his engine stopped (as shown by the evidence of eyewitnesses) Capt. Barnard put the machine into a normal gliding angle to land and that while manœuvring for position the machine stalled. Mr. Mayer of the Bristol Co. said that Capt. Barnard was testing four different airscrews, and was trying the fourth (which had been used before) when the accident happened.

Franklyn Leslie Barnard, who was only 32 years of age, joined the Royal Flying Corps while very young in 1914, and his flying was such that he was awarded the Air Force Cross.

After the Armistice he was a pilot in No. 24 Communication Squadron, which carried the high official personages across the Channel during the Conference at Versailles. On this work he earned his name as a trustworthy passenger pilot and on leaving the Service was engaged by the Instone Air Line as their chief pilot.

When that line was amalgamated with the others into Imperial Airways he became chief pilot. And nobody is more fully recognisant of the value of the work which he has done than is the management of Imperial Airways Ltd.

By the death of Frank Barnard British Aviation has lost one of its most valuable assets. To the general public he was known either as a pilot in the employ of Imperial Airways who besides doing the ordinary work was entrusted with special duties such as the conveyance of our Air Minister and his party from England to Egypt, or as a singularly daring and very fairly successful racing pilot. In either activity his reputation was fully justified.

As an air line pilot, or as a pilot of special passenger machines, no pilot was more cautious or more thoroughly reliable or more capable of finding his way across country, and few were his equals. As a racing pilot when he was responsible only for himself he was as skilful as the cleverest of stunt pilots and even a little reckless.

Those who are familiar with his racing career will remember that he has on occasion got through weather which compelled other pilots of undoubted courage to land. And those who saw him flying in the short-distance race after the King's Cup Race at Hendon last year will remember his daring flying of an S.E.

He won the King's Cup in 1922 for Sir Samuel Instone on a D.H.4, and he won it again in 1925 for Sir Eric Geddes on a Siskin, and in each race he did at any rate increase his lead on his competitors through sheer daring as well as skill.

The contrast between his extraordinary caution as a pilot of passenger machines and his daring as a pilot of single-seaters was remarkable. But his value to aviation was not merely his reliability or his skill as a pilot.

His real value lay in the fact that whatever he did taught him something. Whenever he was flying he was looking for experience and from his experiences he learned lessons which made him more and more valuable to British Aviation in general and to his employers in particular.

Moreover, he had an unusual gift for imparting those lessons to others in humorous and striking phrases which stuck in one's memory. There are few pilots to-day who could tell the story of a flight as graphically as he could and add so many morals to the story. He could tell an amazingly funny story of a flight and at the finish his hearers would always have quite a clear idea that under the circumstances it was silly to do this or wise to do that or that a certain machine should be treated in one way or a certain engine should be treated in another,—for his ability as an engineer was fully equal to his skill as a pilot.

The value of such a man to the progress of flying may be easily understood. He leaves a widow and a young son to mourn with a host of friends the loss of one of the best fellows we have ever had in British Aviation.—C. G. G.

AMERICAN FLYING SERVICE FATALITIES.

The United States Flying Services have apparently been attacked somewhat in the same manner as has the R.A.F. on the score of the number of fatal accidents to pilots. The U.S. War Department—unlike the Air Ministry—has answered these criticisms by publishing really informative data on the subject of fatal accidents in the U.S. Air Corps.

According to the Washington correspondent of *The Morning Post*, the following figures for the Air Corps have been supplied by the department :—

1920 : Miles flown, 3,473,820; total crashes, 62; miles flown per death, 57,642.

1921 : Miles flown, 5,380,060; crashes, 45; miles per death 119,557.

1922 : Miles flown, 4,564,980; crashes, 26; miles per death 175,576.

1923 : Miles flown, 4,869,660; crashes, 34; miles per death 143,225.

1924 : Miles flown, 7,106,887; crashes, 23; miles per death 309,058.

1925 : Miles flown, 11,002,887; crashes, 28; miles per death 392,960.

1926 : Miles flown, 14,665,465; crashes, 28; miles per death 523,757.

For the Naval Air Service similarly complete figures are not available. The same correspondent reports that during the year ending June 30, 1927, the Naval Air Service flew rather more than 100,000 hours (say 10,000,000 miles) for 25 fatalities, which occurred in 16 accidents.

This figure is said to show a slight improvement on the miles flown per death in the year ending June, 1926, and to be more than 25 per cent. better than the figure for any other previous year.

In the case of the U.S. Post Office Air Mail fleet the casualty rate for the year ending June, 1927, was one fatal accident per 1,273,996 miles flown.

THE CANADIAN AIR PROGRAMME FOR 1927.

The following is the 1927 programme of Civil Aviation which the Royal Canadian Air Force will undertake for the various Government Departments :—

DEPARTMENT OF THE INTERIOR.

Forest Service.—In south-western Alberta the Rocky Mountains forest reserve from near the International Boundary to the Saskatchewan river is protected by aircraft fire detection patrols. In Manitoba and Saskatchewan the aeroplane serves both in the detection and suppression of fires over the forested areas to the east and north of lake Winnipeg and westerly across northern Saskatchewan to Alberta.

Topographical Survey.—Vertical aerial photography in connection with mapping the Rouyn mineral area and in the Gatineau, Batiscan and Ste. Anne de Beaupre districts in Quebec. Vertical photography in western Nova Scotia and in the Muskoka, Sudbury, and Temiskaming districts of Ontario. Oblique aerial photography for mapping the Quetico, lake of the Woods, and Lake Nipigon districts in Ontario. In Manitoba vertical photography in the Riding Mountain district and oblique photography east and west of Lake Winnipeg. In Saskatchewan vertical photography in the Prince Albert district and oblique photography in the Lac la Ronde and Lac Mironde areas. Vertical photography in the vicinity of Red Deer, Alberta, and on Vancouver island, British Columbia. Oblique photographs of the Wood Buffalo park in the North-west Territories.

Canadian National Parks.—Fire detection patrols in the Waterton Lakes park and Rocky Mountains park. Pictorial views of sites of historic interest when circumstances permit.

Dominion Water Power and Reclamation Service.—Vertical and oblique photographs in connection with the development of power projects in Ontario and Quebec. Vertical photography of Rainy lake, Ontario, and the Nelson and Churchill rivers in Manitoba and Saskatchewan.

International Boundary Commission.—Vertical and oblique photography over the International Boundary from lake of the Woods to Emerson, Manitoba.

OTHER DEPARTMENTS.

Department of Indian Affairs.—Transportation of Treaty-paying parties in northern Manitoba.

Department of National Revenue.—Transportation of officers of the Preventive Service as necessary.

Department of Marine and Fisheries.—Aerial patrol of Hudson straits to determine ice conditions in connection with navigation of Hudson bay. Patrols for the prevention of illegal fishing on the Pacific coast.

Department of Agriculture.—Experimental dusting for the prevention of wheat rust in the Prairie Provinces and for the control of the Spruce Bud worm in Cape Breton island.

Department of Mines.—(In co-operation with the Topographical Survey.) Vertical photographs in mineralised areas in Ontario and Quebec.

Department of Public Works.—Vertical and oblique photography of harbours and harbour works.

Department of Railways and Canals.—Vertical photography of Welland canal.

ANOTHER AUSTRALIAN TOUR.

Group Capt. R. Williams, Chief of the Australian Air Staff, Sq. Ldr. Hepburn and Flt. Lt. Murphy, and four mechanics, R.A.A.F., have left Melbourne on three D. H. 9s (Puma engines) on a survey flight throughout Australia. It is expected that they will be engaged on this work, which includes the examination of the possibilities of future air lines and the establishment of new aerodromes, for months.



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ENGINE TROUBLES IN AIR-LINE SERVICE.

There are two factors which between them account for practically the whole of the recorded failures of British air lines to maintain perfect regularity in the operation of their scheduled services. One is adverse weather, the other power-plant failure.

Adverse weather is the cause of rather more than half of the involuntary landings, and of the great majority of cancelled flights.

Power-plant defects on the British services account for less than half of the involuntary landings, but a very considerable number of such defects occur without leading to any actual interruption of a journey because they are detected in an incipient stage, and the particular power plant is laid off from service until the defect can be remedied.

Very few flights are interrupted because of any mechanical or structural defects in the aeroplanes. It might be concluded from these facts that the design of aeroplanes was from the mechanical point of view in a more advanced and highly developed stage than the design of aero-engines.

A precisely contrary opinion is however held by those with extended experience of the maintenance of modern British civil aircraft. Mechanical failure of any part of the actual engine is a relatively rare occurrence with any of the types now in regular service on the British airways, and such failures are becoming rarer.

Water jackets on water-cooled engines still give a certain amount of trouble, but otherwise there are practically no regularly recurrent sources of breakdown which could be attributed to defect of design or manufacture of the engine.

Engine failures are practically all engine installation failures, and the design of engine installation is part of the aeroplane designer's work. It is natural enough therefore to lay the blame for power-plant troubles on the unfortunate aircraft constructor and to contrast the manifold failures of installation details with the singular reliability of the engine itself to the discredit of the aircraft designer.

This view of the matter—it may be suggested—is also not quite fair. An engine of any one type is a definite and standardised unit in the mechanical sense. Before that unit can be used in any licensed aircraft it must necessarily have been subjected to running tests of a fairly trying character which will reveal anything in the way of serious defects of design in that particular unit.

By the time an engine has reached such a stage of development that it can be adopted as a standard type in regular service there have probably been some thousands of hours of running experience with that engine, and ample opportunity is thus given to the manufacturers to repair any serious deficiencies that may be found.

The aeroplane designer however has to improvise for each new type of aeroplane a new power-plant installation. One unit of the power-plant—the engine—is normally a tried and proved piece of mechanism. The rest is new and untried until the new machine as a whole can be tested in the air. And whereas the engine-maker lays himself out to produce his particular section of the power-plant as one of hundreds or even thousands of identical units, the designer of a commercial aeroplane can often only count on producing two or three of any one type of machine and installation.

The engine-maker must at least run his engine on type test for 50 hours before he can obtain a certificate of airworthiness for it, and probably runs it for a good many more hours than this before it is even submitted to this compulsory test. The aeroplane constructor rarely has the opportunity of testing his installation as a whole for even five hours, and in the generality of cases could not afford to do so if he had the opportunity

If the aeroplane designer could reasonably expect to receive orders for a large number of identical machines he might also be expected to give the power-plant installation in that particular type a reasonable extended test, get it right, and standardise it for the type. But even so it would be a prohibitively costly process to run a complete aeroplane of a new type on installation development tests for the number of hours which are normally required for getting a new engine through its teething troubles.

Consequently troubles of the type which the engine builder discovers in the engine during the development stage are in the case of engine installations left to be discovered by the aircraft operator in actual service.

It is probably true that the aircraft designer is encouraged by the conditions to take less trouble over installation design than he might profitably spend on this branch of his work. As things are he does not directly encounter these troubles—he merely has complaints about them after the machine has left his hands. And it is only natural under the circumstances that he should rather underestimate than overestimate the importance of such complaints.

It is also quite possible to hold that the engine-builder and designer is to some extent responsible for the prevalence of installation troubles. After all, an aero-engine is only one unit in a complete power-plant, and however perfect that unit may be by itself, it is not of much practical value if it cannot be combined with all its essential auxiliaries into a reliable power-plant.

A wise and beneficent Air Ministry has ordained that an engine may be deemed airworthy on the basis of bench tests only, but bench tests are very far from reasonably simulating the actual conditions under which the engine is destined to run in service.

Some at least of the few troubles which are found with engine units themselves may reasonably be traced to the fact that the parts which give the trouble are not subjected to the same conditions on the test bed as they suffer in actual service. The parts show no sign of giving trouble after many hours on the bench. If they fail in a much shorter period in the air the engine-maker is naturally inclined to blame the installation, the airscrew, or some such external factor.

Thrust-races and reduction-gears cannot be tested on the bench under anything like the loads they may have to bear in service, and these items have both at times shown signs of weakness in the air.

The trouble with water jackets, which is found in widely different engines, might possibly have been overcome ere this if the engines on the test-bed were subject to the same combination of vibration and fluctuation in temperature as they must frequently encounter when at work.

And it is quite likely that there would be fewer installation troubles for which to blame the aeroplane designer if the engine-maker had some more direct appreciation of the real difficulties of designing satisfactory installation systems for his engine.

If the standard type test for a C. of A. were to comprise 50 hours in the air with an installation for which the engine-makers were responsible, it may be imagined that installation problems would be very distinctly simplified by relatively minor modifications in the engine itself and that the result of the experience gained in such tests would move the engine-designer to leave less and less of the problems of installation to the aeroplane-designer and to attempt as far as possible to make his engine more nearly a complete power-plant.

The suggestion that it should be the engine-maker's business to supply the whole power-plant unit, complete with all cooling-equipment, mounting, and cowling, requiring only attachment to the aeroplane by four bolts, and the coupling up of the fuel, oil, and control connections, is one that will not appeal at once to either the engine or the aeroplane designer.

Obviously there are serious difficulties about complete standardisation. The actual engines of a single-seat fighter and of a large passenger-carrier may be rigidly interchangeable—the complete installation fairly obviously cannot be. For machines designed to attain the maximum possible performance with a given engine, a standard mounting, radiator and cowling might seriously limit the aeroplane-designer in his endeavour to cut body resistance to the minimum.

But for more or less standardised types of relatively moderate speed such as are in use on modern air lines and more particularly in multi-engined machines with bodies of large cross-section the provision of such a standardised power unit would mean no appreciable loss of performance, and the first engine-builder, who produces such a unit and develops it to a degree of reliability approaching that attained by any one of a number of modern engine units, will find himself in great favour with air-line operators.

It is the general consensus of opinion among those who are trying to run aeroplanes on a commercial basis that the air-cooled type of engine is more satisfactory for their purpose than the water-cooled type. This opinion is not based on any superiority in the engine itself as an engine—it is almost entirely due to the fact that the air-cooled type has one less auxiliary system in which defects can occur.

The maker of air-cooled engines in fact has taken the cooling installation out of the aeroplane-designer's hands, has made it part of his engine, got it right in the course of his development tests and has standardised it once and for all.

The engine-maker who will go still further along the same road will doubtless find as many troubles in the way as have been found in bringing air-cooled engines to their present state. But he will find it worth doing.

If he can cut out installation troubles, he will cut out most forced landings other than those due to weather, and a fair number which are due to a combination of weather and the fear of engine trouble. And he will save aircraft operators a very large proportion of their engine maintenance costs.

If this can be done the problem of making air transport pay will be in large part solved.

"Bristol"



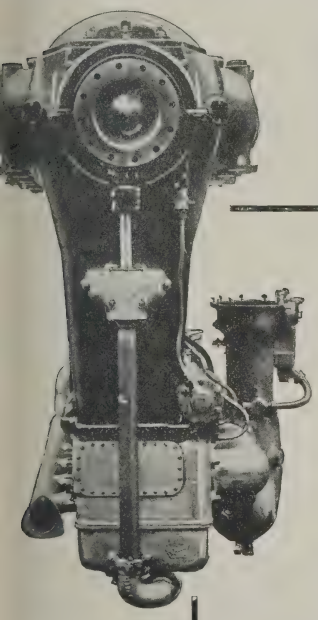
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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 32; Tuesday, 28; Wednesday, 26; Thursday, 30; Friday, 31; Saturday, 36; Sunday, 11.

IMPERIAL AIRWAYS LTD. :

London—Brussels—Cologne : Machines 89, passengers 820, freight 25 tons.

AIR UNION :

Paris—London : Machines 42, passengers 171, freight 12¼ tons.

K.L.M. :

Amsterdam—Rotterdam—London : Machines 27, passengers 183, freight 4 tons.

DEUTSCHE LUFTHANSA AG. :

Berlin—London : Machines 16, passengers 90.

SABENA :

Brussels—London : Machines 16, passengers 115.

PRIVATE :

Machines 4, passengers 4.

Total number of trips by British Machines, 93, carrying 824 passengers. Foreign Machines, 101, carrying 559 passengers.

COMPARATIVE FIGURES.

Week ending July 31 :

Machines, 194; Passengers, 1,383; Crews, 357; Total personnel, 1,740.

Corresponding week, 1926 :

Machines, 192; Passengers, 1,220; Crews, 237; Total personnel, 1,457.

Corresponding week, 1925 :

Machines, 169; Passengers, 941; Crews, 242; Total personnel, 1,183.

Corresponding week, 1924 :

Machines, 181; Passengers, 930; Crews, 225; Total personnel, 1,155.

Corresponding week, 1923 :

Machines, 146; Passengers, 682; Crews, 233; Total personnel, 915.

Corresponding week, 1922 :

Machines, 209; Passengers, 734; Crews, 342; Total personnel, 1,076.

Corresponding week, 1921 :

Machines, 155; Passengers, 462; Crews, 144; Total personnel, 606.

Corresponding week, 1920 :

Machines, 115; Passengers, 240; Crews, 144; Total personnel, 384.

Corresponding week. 1009 :

Machines, 1; Passengers, 0; Crew, 1: Total personnel, 1.

Croydon Notes.

The death of F. L. Barnard has naturally cast a distinct gloom over Croydon, where he was generally regarded as the last pilot likely to come to an end such as his.

His case has naturally raised the question as to whether it is wise for a man who devoted his mind and his many abilities so whole-heartedly to safe commercial flying to take a " 'busman's holiday " and indulge occasionally in flying of a totally different type.

Barnard was essentially one of those men who put the claims of his profession before everything else. His whole life was ordered to keep himself fit for his duties, and one cannot help feeling that he regarded such an undertaking as flying a racing machine as a complete relaxation from his normal preoccupation with the calls of safety.

Whether in fact his fatal crash was the result of relaxing too far or was due to some other cause, this country has to regret the loss of one of the finest of its commercial pilots.

So far as traffic goes, summer has undoubtedly come. Imperial Airways have carried well over 1,000 passengers during the week, and the other services have been equally well patronised. Fortunately the weather improved during the week, and visibility on the whole has been fair, though odd patches of thick, low clouds have developed a habit of blowing across onto the Kent hills at awkward moments

---

Mr. Stack, of A.D.C.'s air transport service, is rarely to be seen at Croydon nowadays till late in the day. This is not the result of sloth—it is merely that he departs from Lympne every morning at screech of dawn for a Continental destination, and does not appear at Croydon until after he has returned.

As is well known, the operation of the A.D.C.'s transport fleet are treated by that firm as confidential, but it is no secret that a well-known London morning paper is on sale in Ostende and its environs at an hour which must imply that it has been delivered by air. 700 lbs. of this paper travel every day.

The Liore et Olivier machines, with twin Jupiters, which made a number of trips to Croydon some little time ago, has been converted into a dining car machine. It has a normal passenger cabin, a separate restaurant compartment, and an alleged kitchen

The alterations to the passenger space needed to prov these amenities, and the consequent suppression of cert fuselage bracing, caused the machine to develop an ala ing degree of tail wobble, and it has been necessary to ma a number of structural alterations. These are now co plete, and the machine with passengers, food and *chef* Paris for Croydon on Saturday, where it arrived in course.—W. H. S.

QUARANTINE FOR AIR PASSENGERS.

The Cairo correspondent of *The Times* announces t owing to an outbreak of cholera in Basra all passengers Imperial Airways arriving from Basra must undergo days' quarantine at Heliopolis.

This is the first time that the quarantine station has be used since the inauguration of the Imperial Airways serv between Cairo and Basra, and is in fact the first time t air passengers have been quarantined.

AIR TAXIS LTD.

Mr. Hope and Mr. Birkett have been busy conveying h day-makers to their various destinations. Mr. Hope a found time to win the King's Cup Race. Mr. Dickinson specially engaged by *The Evening News* to go to Norw and Yarmouth. Mr. Birkett took special pictures of crowds on the beaches on the East coast.

Air Taxis Ltd. has for long been doing a large amount very useful work. Therefore it is all the more gratifying see Mr. Hope, the founder, chief pilot and moving spi pull off the big event of the year.

SPEEDING UP OCEAN MAILS.

On Aug. 1, Mr. Clarence Chamberlin, on a Fokker Univer monoplane (200 h.p. Wright Whirlwind engine) took off 08.14 hours from a runway 114 feet long built on the de of the outward-bound *Leviathan* when 150 miles off F Island, New York, and flew back to Curtiss Field, L Island, N.Y., where he landed at 09.30 hours.

The object of the flight was to demonstrate the practi bility of an aeroplane service to speed up the transport urgent mail to and from liners.

The assumption is that catapults will be used should t method of accelerating sea-borne mails become customary

RECIPROCITY.

The little town of Kottbus has, since its discovery Messrs. Chamberlin and Levine, been suffering from shock of publicity.

It is now planning a return visit to New York and Town Council, supported by local firms, is reported to in negotiation with the Junkers Company with a view to taining a suitable vehicle for this gesture of politeness.

LONDONT TO LONDENG.

Mr. James D. Vance (late R.N.A.S. and R.A.F.), Toronto, has been chosen as the pilot for the projected fli from London, Ont., to London, Eng., for which a Lond Ont., brewery has presented funds.

The business men of Windsor, Ont., not to be outdone the brewery of their illustriously-named comparatively-n neighbour, have also succumbed to geographical alliterati and are contemplating a flight from their city to Winds Eng. A Mr. C. A. Schiller, of the Ontario Forestry Pat Service has been selected as pilot for this projected flight

AIRCRAFT OPPORTUNITIES IN CANADA.

A reader of THE AEROPLANE in Canada sends an interesti note about Capt. Stevenson, who operates Western Canad Airways. The machines used are Fokker Universals—Ame can aircraft as usual. Their Headquarters are at Winnip There is one mechanic to each machine and he travels with —an excellent way of insuring mechanical efficiency.

The note continues :—

" Steve " operates his Universal on wheels, floats or skis with eq success and has flown 270 hours this year already, bringing his aga gate to over 3,700 flying hours!

The other day there was a breakdown at a mine 150-200 miles fr Winnipeg. A wire was sent to Chicago for a spare. It, a 450 crankshaft, reached Winnipeg at 3.30 a.m. At 4.20 a.m. it left ground, and at 10.0 a.m. it was at the power house. This mean lay-off of two or three days against a month or two under time methods of 1926.

The same day "Steve" did two trips to a survey party on the Churc River taking in 1,200 lbs. of groceries, etc., then flew home, add another 14 hours in his log book for the day's work.

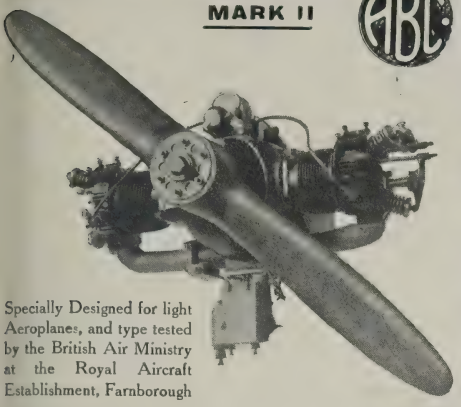
There is an example of the way in which air transport c

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	Power.		Consumption.
Normal	34 B.H.P. at 2300 R.P.M.	Petrol	.52 pint per H.P. Hour
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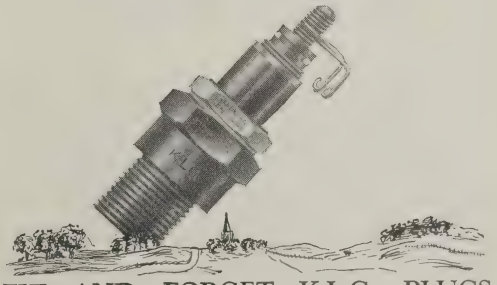
18,000 ft.

The Hon. Lady Bailey *accompanied by* Mrs. Geoffrey De Havilland on Wednesday, 6th July, 1927, in a MOTH plane (Mark II Cirrus engine) reached 18,000 feet—a world's altitude record for light aeroplanes

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be useful in a country which is still being developed. And the unfortunate thing is that the whole of this vast and growing market for air transport in Canada is being left to the American aircraft trade.

If any of our wealthy British aircraft constructors would open a branch establishment in Canada, he could get the business just as easily as the Americans can get it. And if Mr. Anthony Fokker can go to the States and start a successful aircraft business in competition with the many competent firms already existing in the States, surely a British aircraft constructor can do at least as much in a British Dominion?

Naturally Canadians will not buy British aircraft when they have to send to England for spare parts of machines and engines. But if any firm in this country would turn out a transport machine as good as the Fokker Universal or the Ryan or the Bellanca and would make it in Canada and keep a proper stock of engine spares there, there is money waiting to be picked up.

A BRITISH COLUMBIAN ENTERPRISE.

An interesting and rather amusing bit of news comes from British Columbia. A member of the Air Force Club of British Columbia, named Usborne, who is a relative of the late Commander Neville Usborne, R.N., who was killed in experimenting with the first Blimp, has acquired a Fokker with a Rolls-Royce Eagle VIII engine and quantities of spares which has been lying in store in Vancouver ever since Major Zanni, the Argentine aviator, attempted his round the World flight which ended in Japan.

It was being put together early in July, and if it has proved none the worse for its long storage, Mr. Usborne hopes to make an attempt to fly to Hawaii for the Dole Prize. Apparently Mr. Usborne knows Hawaii well, having sailed all round the islands, and provided he can get within sight of them he ought to have a better chance than anyone else of identifying the precise landing ground on which competitors have to finish.

THE U.S. SCHNEIDER CHALLENGER.

Of the racing biplane which is being built by the Kirkham Products Co., for Lieut. Al. Williams, U.S.N., to fly in the Schneider Trophy Contest, it is said that the original designers, Messrs. Booth and Thurston, wanted to make the machine a monoplane and did draw one out, but Lieut. Williams, being a biplane man, would not hear of it. Consequently, although the designers believe a monoplane to be faster, they decided upon making an orthodox biplane racer more or less of the Curtiss type.

The machine will carry petrol and oil for one hour only. The oil capacity is said to be 15 gallons. The radiators, of the wing type, will circulate oil as well as water.

AIRCRAFT ENGINES FOR RUSSIA.

Information from America suggests that the Packard Company have sold five of their 800 h.p. 3A-2500 type aero-engines with improved ribbed crank-cases, to Russia.

Two representatives of the Packard firm left for Moscow some time ago to superintend the testing of the engines in Russia. One of them, Mr. Default, who represents the business interests of the firm, is a Frenchman, and is private secretary to Col. Vincent of the Packard Co., who was the designer of the Liberty engine during the War. The other representative of the firm is Mr. Hitchock, of the Dynamometer Test Dept., who is the technical side of the expedition to Russia.

The latest information about the Packard engine is that two superchargers are to be fitted. This engine is of the 2,775 cubic inch type which normally gives 1,225 h.p.

With the superchargers they reckon on getting between 1,400 h.p. and 1,700 h.p., but the probability is that they will be content to get 1,400 h.p., running the superchargers at one pound pressure.

The idea of using two superchargers is to cut down head resistance. One will be placed directly over the airscrew shaft and the other underneath it, instead of using one large supercharger which would spoil the shape of the nose of the machine.

HANDLEY PAGE FINANCES.

At the ordinary general meeting of Handley Page Ltd., held at Winchester House, E.C., on July 27, the Chairman, Mr. S. R. Worley, was able to state that the company had made excellent progress during the past year. All loans had been discharged, the company's assets were totally unencumbered, and their trading profit had been maintained.

The British Government was practically their only customer, and from them they had received a certain number of orders. At the present rate of progress if continued should justify the board in declaring a dividend on this year's working. They should, in fact, be able to consider paying an interim dividend in the Autumn.

Mr. F. Handley Page referred to the fact that patent rights stood in the balance sheet at a value of £75,000. This item covered the World rights in the slotted wing. After a long period of development of this device and numerous tests the Air Ministry had at last decided to fit the slot and aileron control to all their Bristol Fighters. This decision must have the effect of increasing the use of their patent in other types of aircraft.

In their manufacturing business they had had to turn more and more to building for Service requirements, and the Directors regretted the increasing separation which seemed to be taking place between manufacturers and operators of civil aircraft in this country.

At the time of the formation of the National air transport company (Imperial Airways), Handley Page Ltd. became and still remained the largest shareholder in that company. The representation on the Board of that firm which was to have been given to Handley Page Ltd. had not been accorded, and the Directors of Handley Page Ltd. were considering what could be done in the matter.

One often heard of the regrettable lack of interest in commercial aviation in this country but this lack of interest was not surprising when a concern which had shown both financial and technical interest in furthering the development of air trusport was thus given the cold shoulder.

PERSONAL NOTICES.

Forthcoming Marriages.

BAYNE—PEMBERTON.—The engagement is announced between Hugh Alexander Bayne, R.A.F.R., and late R.A.F., elder son of Mr. and Mrs. W. P. Bayne, of Woodlands, Beckenham, Kent, and Sybil Frances, younger daughter of the Rev. F. R. Pemberton, of Little Hallingbury Rectory, Bishops Stortford.

BURROWS—TURNOCK.—The marriage of Mr. Robert H. Burrows, A.F.C., M.A., son of Mr. Harry Burrows and of the late Mrs. Burrows of Homewood, Stevenage, Hertfordshire, and Mira, daughter of Mr. and Mrs. Walter B. Turnock, of Danygraig, Port Talbot, will take place at St. George's Church, Hanover Square, on Aug. 16.

BUSK—MORRIS.—The marriage arranged between Flt. Lt. Cliffe Westly Busk and Miss E. M. Morris will take place at Bombay in September.

COCKS—FOSTER.—The engagement is announced between Adrian Cocks, R.A.F., younger son of the Rev. E. G. and Mrs. Cocks, Colwood, Devon, and Doris Swenellen, daughter of Mr. and Mrs. E. Foster, West Ealing, and granddaughter of the late Capt. and Mrs. Foster, of Lostwithiel.

Birth.

BAILEY.—On July 26, at South Yarra, Melbourne, Australia, to Edna, wife of Major Lionel M. Bailey, R.A.F., of Ilford, Essex, a daughter.



THE AEROPLANE

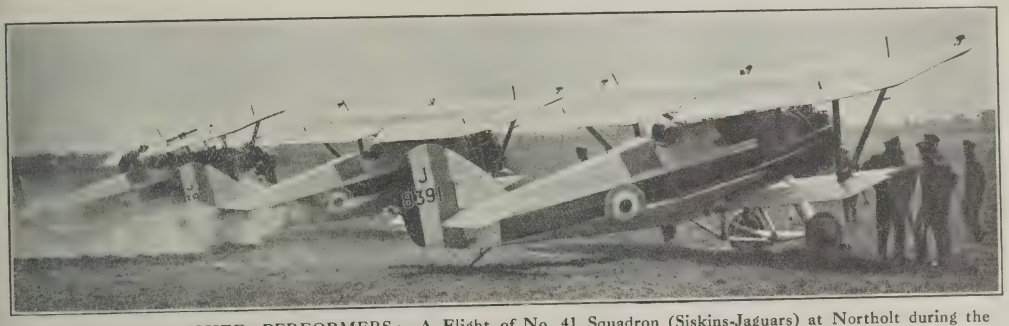
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Edited by C. Grey

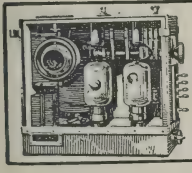
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"MOUNT, MOUNT, MY SOUL! THY SEAT IS UP ON HIGH!"

(SHAKSPEARE.—*Richard II.*)



OUR MOST POLISHED PERFORMERS:—A Flight of No. 41 Squadron (Siskins-Jaguars) at Northolt during the Air Exercises, running-up their engines in readiness to start a defensive patrol against invading bombers.—No. 41 were the people who did the Musical Flight at the R.A.F. Display at Hendon, where they justified their nickname, "the Spit-and-Polish Squadron," and showed that smartness is an outward sign of efficiency.



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Air tactics, such as formation control, require a means of instant communication between machines. This is provided by the Marconi AD.5 aircraft telephone apparatus, specially designed to meet the wireless needs of small machines without in any way impairing manœuvrability or fighting efficiency.

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AUG. 10, 1927.

THE AEROPLANE

Incorporating
Aeronautical Engineering

VOL. XXXIII. No. 6.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 426.
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ON THE R.A.F. EXERCISES.

During the week before the August Bank Holiday the London papers gave a considerable amount of their valuable space to more or less inaccurate accounts of what the sensation-loving editors were pleased to call either "The Air Manœuvres" or "The Air War."

THE AEROPLANE did not tackle the subject last week because people expected it to deal with the air-racing at Nottingham. And so, as the amount of room needed to deal with the R.A.F. Exercises is considerable, the much more important affairs of the R.A.F. had to be held over till this week, when, one hopes, readers will have recovered from the Bank Holiday and will feel more inclined to consider aviation seriously.

The daily papers meant well, of course, in their dealings with the Air Exercises. Newspaper editors generally do,—except for a few individuals who believe that their duty compels them to mean distinctly ill on occasion. Most of the papers sent their "air experts" to report this so-called air war, and as a result the majority of the reports were reasonably free from aeronautical inaccuracies.

Nevertheless much more valuable work might have been done, both for the Nation and for Aviation, if the papers had sent experienced military correspondents, preferably trained Staff Officers (retired), who would have seen the affair from the proper Service point of view, and would have valued the work of the aircraft in proper relation to the whole problem of War.

Still, all things work together for good, and quite possibly the glowing descriptions of the flying, in some cases accompanied by entirely imaginary descriptions of things which did not happen, may have done more to increase the air-mindedness of the people than would have been done if the affair had been discussed from the strictly Service point of view of strategy and tactics.

The first, and pretty well general, inaccuracy of the Press, was in describing these Air Exercises as Manœuvres. They were in fact nothing at all like manœuvres, as we understand the word in connection with naval manœuvres or army manœuvres.

The Air Staff itself deliberately called them exercises. And exercises they were, of very limited scope. If ordinary army manœuvres may be taken as bearing some similarity to real war, then these exercises may be taken as corresponding rather to a combination of a route march and a staff ride in the Army.

GOOD EXERCISE.

They exercised the personnel of a few squadrons in getting their machines out smartly and keeping them all in good flying trim ready to scramble into the air at any moment for the better part of a week. They exercised the bombers in hunting for objectives in rather bad weather. They exercised the fighters in hunting for bombing formations over, in, and under very effective cloud formations.

They exercised a small number of territorial gunners in sighting their guns with the help of searchlights. They exercised a small number of searchlight units in finding machines with the help of their sound indicators. They exercised a limited number of observers for about 24 hours by day and by night. They exercised a certain number of telephone operators in the art of putting the observers through quickly to Headquarters, without giving wrong numbers and saying "Sorry you have been trubbulled!"

Also undoubtedly they exercised usefully the minds of a number of Staff Officers. But the whole thing was on such a minute scale that compared with real War in the Air it only amounted after all to an exercise in squad drill compared with a real battle.

One gathers that the Air Staff, including the Staff of the Air Defence of Great Britain and the Staffs of the Fighting Area and the Bombing Area, learned quite a good deal about flaws in their various systems which they can now put right. Also possibly on the technical side a certain amount may have been learned about the blind spots of machines and so forth,—though probably all that was known months before the machines of the various types were even delivered to the squadrons And it was good exercise for the pilots and mechanics to have to get the machines into the air at any odd moment instead of whenever happened to be most convenient.

Apart from all this, the ordinary citizen on the ground



A CHALLENGER.—One of the Supermarine-Napier S.5s. coming ashore at Calshot, where the High Speed Flight is now in training for its attempt to recapture the Schneider Trophy from Italy on Sept. 25.—The attitude of the airman in waders suggests that he is enticing the machine with terms of endearment.

and his family had a little useful exercise in listening to the notes of various aircraft flying at night. Once in a while we heard from the twin-engined bombers that curious throbbing sound which was so familiar during the War, though the multiplicity of cylinders in these days does not give quite the same distinct throb which one used to hear from the two big six-cylinder Mercedes engines on the Gotha bombers.

This sound must have recalled unpleasant experiences to some people, and may have impressed on them the need for teaching the younger generation to be airminded. That also was a useful exercise.

Therefore, taking them all round, the Air Exercises have undoubtedly been justified.

Erroneous Doctrines.

For anybody to call them Manœuvres and to try to deduce from them any lesson which can be impressed on the General Public is sheer nonsense. Or else the person who does so point a moral and adorn a tale is grievously misleading those whom he intends to instruct.

On this score one has a serious quarrel with Colonel the Master of Sempill, who, as Chairman of the Royal Aeronautical Society, has written to *The Times* emphasising the point that "The recent Air Manœuvres" have demonstrated the incontrovertible fact that,—

an inferior attacking force has been able to penetrate London's Air Defences in innumerable raids, and, theoretically, has laid considerable portions of the City in ruins and presumably asphyxiated many thousands of her citizens.

He continues :

If, with an inferior attacking force, these results can be achieved, how much more effective would be a natural enemy with forces such as any four European Powers could send. We have not more than 500 machines wherewith to defend London, as about half our aircraft are on foreign stations. Yet we rest calmly in our beds without a gas-mask among 7,000,000 of us.

All this, which one can only characterise frankly as nonsense, is a preliminary to urging the readers of *The Times* to join The Air League.

Colonel Sempill has done much valuable work for Aviation. Personally one esteems him highly as a friend, and one has a great respect for his knowledge and ingenuity as an engineer. He did very good work during the War. He is a gallant and enterprising pilot to-day,—even, according to one's own ideas, a trifle too daring as a pilot for a man in his position and with his responsibilities. And he did very good service for the British Trade by taking out the Mission which organised and trained the Japanese Naval Air Service.

With such a record, and in his position as Chairman of the Royal Aeronautical Society, which is not only the oldest aeronautical organisation in the World but is recognised as our leading scientific air organisation, Colonel Sempill has no right to inflict on the public suggestions which, though they are only suggestions, have implicit in them statements which are flagrantly inaccurate.

The Facts of the Case.

Every official statement which has ever been made by anybody concerned with the Air Ministry on the subject of air defence, and particularly by Sir Hugh Trenchard himself, has always emphasised the fact that the very be possible defences on the ground and in the air cann guarantee that no enemy aircraft will penetrate tho defences.

Even on the ground no defence is impregnable. In th little War of 1914-18 even trenches lined with machine gu and protected by uncut barbed wire could not preve occasional British soldiers, ill-supported with artillery they were, from getting through the defences. How muc less can a huge volume like the sky over any given are be made impenetrable?

In these recent exercises there was nothing to stop th bombers. We had no balloon-aprons up, and a ring balloon-aprons itself is an almost impenetrable defence u to 9,000 feet or more.

We had no anti-aircraft guns actually in operation, and i these days when anti-aircraft gunnery has become an exac science the Archie gunners can be pretty sure of getting an thing that comes over above 10,000 feet and getting on toward 20,000 feet. And the bigger and slower the bomber th easier it is to hit, of course.

The intercepter fighters actually only come into operatio above 20,000 feet, or outside the actual gun and balloon-apro area.

Of course one may be all wrong, but judging from th lessons of the last War, properly interpreted and not take literally, one believes that the defence of any really im portant point such as inner London can be assured very muc better with balloon aprons and guns than it can by any kin of aircraft,—on the good old principle that a gun on lan is worth two afloat, either on the sea or in the air.

Intercepter fighters may be all very fine in their way, an they may manage to intercept bombers when they are ou over open country. For the actual defence of London, o any other great city, defensive aircraft are not particularl necessary. But they may be very necessary for the defenc of the country as a whole, for no nation could afford t defend every big town by rings of balloon-aprons, guns and search-lights.

On the other hand, the real defence of the country lies no in the intercepter fighters but in the high-speed bombing machines which ought to be able to reach the enemy's country and lay his aerodromes flat before his bombers ca start.

For that purpose there cannot be very much use in the bi terribly slow multi-engined bombers of which we and othe countries seem to think so much. Mosquito attacks by really high-speed daylight bombers on enemy aerodromes will d very much more as a defence than any amount of alleged de fensive aircraft.

One of the first axioms in the theory of war is that attack is the best defence. Colonel Sempill, with his war experience, ought to know that better than anyone else. Yet we have him lamenting that we have not more than 500 machines wherewith to defend London.

One can only ascribe such a remark to his being carried away by his enthusiasm for the Air League. His attitude in this matter would be amusing if it were not so tragic that



GREAT EXPECTATIONS.—The first of the Supermarine-Napier S.5s. at Calshot. Mr. R. J. Mitchell, the designer of the machine, is seen promenading pensively on the left, while Major R. E. Penny, one of the Principal Technical Officers of the Department of Technical Development, is seen cooling his fevered brow in the slip-stream.

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No other engine has proved itself so efficient and reliable for Military, Civil and Racing purposes.

Napier engines have covered nearly 3,500,000 miles on commercial service between England and the Continent.

All the Royal Air Force successful long-distance flights have been accomplished with Napier engines.

Twice have four Fairey aircraft, flying together, flown from Cairo to Cape Town and back, covering 100,262 engine miles without mechanical trouble.

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a man of his attainments should loose off sentiments such as one would expect from a mere political propagandist.

GAS.

Equally sad and grimly amusing is his rhetorical phrase about our resting calmly without a gas mask among seven million of us. Does Colonel Sempill seriously expect the Government to issue 7,000,000 gas masks gratis and post free along with income tax forms or something of that sort? And does he expect a staff of instructors and inspectors to make a house-to-house visitation to see that those gas-masks will be properly used? Or does he expect them to be sold to the public in varying qualities and prices all the way down the scale from Fortnum and Mason's to Woolworth's?

If Colonel Sempill, helped by the propagandist efforts of General Groves and the Air League, and backed by the alleged scientific attainments of the Royal Aeronautical Society, can only work up enough agitation along these lines, one will certainly drop THE AEROPLANE and go into the gas-mask business. But, unfortunately, about the only gas which London is ever likely to see in connection with air raids seems most likely to come from the Air League and the Royal Aeronautical Society.

MORE ERRORS.

In this connection one has another equally serious quarrel with Colonel Sempill. He seems to have allied himself, very unwisely, with the series of attacks on the administration of the Air Force which are being published in *The Daily Mail* in the form of a series of articles "By the Air Correspondent," who is "investigating risks attaching to service in the Royal Air Force and the remedies which might be applied."

Colonel Sempill, again as Chairman of the Royal Aeronautical Society, says :—

> When in 1918 the R.N.A.S. and the R.F.C. were amalgamated into the Royal Air Force, the former had already established an engineering branch. The R.F.C. had not, but had been developed on lines of non-specialisation. The result was that the lessons which the numerically smaller naval air service had to teach in regard to technical organisation were lost. Yet the general technical efficiency of the R.N.A.S. of 10 years ago was higher than it is in the Royal Air Force to-day.
>
> Since the amalgamation the Air Force has been ruled by ex-Army officers of the old school. They believe that an engineering branch of the service is unnecessary and undesirable. But I think that when changes in the higher command take place we shall see the establishment of some very much more suitable arrangement.

ARMY ENGINEERING.

This is a most dangerous misstatement for any paper to spread among a Public partly educated in aeronautical affairs. It is true that the R.N.A.S. had a sort of engineering branch, mostly run by former engineer-officers and E.R.A. ratings of the Royal Navy. But in fact the R.F.C. had its engineering branch with the slight difference that the members of that branch were called Equipment Officers.

Those who knew the two Services know that the people who looked after the equipment of the R.F.C. actually did their work much more efficiently than the amateur engineers in the R.N.A.S. And, as a matter of fact the R.F.C. squadrons were, on the average, smarter in getting machines away and more reliable in keeping them in the air.

The fault in the R.F.C. was that the squadrons were equipped with the wrong machines during the first two years of the War. And that was the fault of extraordinarily highly-trained civilian engineers in the service of the War Office,—just the same people who, by their intrigues and dilly-dally policy, are to-day in the service of the Air Ministry causing the deaths of R.A.F. pilots. But the actual operative engineering work in the R.F.C. squadrons was on the whole much better than that of the R.N.A.S.

ENGINEERS IN THE AIR FORCE.

The last paragraph of Colonel Sempill's statement merely calls for flat contradiction. The proof is in the Air Force List itself, for anybody who will take the trouble to look at it, which Colonel Sempill has evidently not done.

Certain officers possessing certain qualifications will be found in the Air Force List with the letter "E" after their names, indicating that they are qualified for engineering duties. And elsewhere in the Air Force List will be found quite a considerable list of officers who are appointed to various universities and other educative establishments for special training as engineers.

The aim of those in high places in the Air Force is not to have a force of harum-scarum pilots who are kept in the air by the efforts of a few specialised engineers, but to have a force of trained engineers who are capable of flying, together with a few superlatively good engineers to look after the more highly technical affairs.

Thus it may be seen that the High Authorities are working for a very much higher degree of technical safety in the Air Force than Colonel Sempill imagines. If Colonel Sempill would keep himself a little more in touch with the Air Force and with those who are in authority over it he would not make himself responsible for such stupidly inaccurate statements.

They are not only very dangerous in stirring up ill feeling among the people of this country, when broadcast in papers of vast circulation, but may have the still more evil effect of undermining the moral of some of the young people in the Air Force who know Colonel Sempill as a very able pilot and as the Chairman of our leading scientific aeronautical organisation, but do not happen to know his personal prejudices.

Surely the essence of science is absolute accuracy, as nearly as it can be approached, and the lamentable inaccuracy of Colonel Sempill's outlook, as well as his statements, can only have the effect of undermining his repute as a scientist.

One notices that General Groves, who was recently engaged to attend to the propaganda of the Air League, has also been using his official position, as such, to attack the Service side of the Air Ministry, which the League exists ostensibly to help. One hopes to be able to find room next week in which to deal faithfully with his prejudices and fallacies.

THE EXERCISES IN BEING.

The chief aim of THE AEROPLANE has always been to assure accuracy of statement. Consequently the only way to give a correct impression of the Air Exercises is to publish as full a report of them as the space available in THE AEROPLANE permits.

Hereafter will be found a day-to-day report of the doings written by Mrs. C. M. McAlery, who has made for herself a unique position in Service Aviation. It may seem strange that the Service affairs of a paper such as THE AEROPLANE should be committed to the care of a woman. But as Mrs. McAlery served during the War in the W.R.A.F. and has since then



MORE EXPECTATIONS.—The Gloster-Napier IV, one of the two British Biplane representatives in the Schneider Trophy Contest.

The

KING'S CUP RACE

1927

As in 1926, when Capt. Broad flying a de Havilland "Moth" won the King's Cup of that year, this trophy has again been won by an aircraft fitted with a Fairey Patent Metal airscrew (license Reed).

FIRST

and

SECOND

places in this year's race have been obtained by Capt. W. L. Hope on a similar machine, who won the trophy, and by Capt. McDonough on a Westland Widgeon III, who obtained second place. BOTH MACHINES USED FAIREY METAL AIR-SCREWS. Mr. Hope says ". . . . the Fairey-Reed gave me the extra miles per hour that enabled me to win the Race."

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FAIREY LICENSE REED
METAL AIRSCREW

devoted herself wholly to the welfare of the R.A.F., and, moreover, as she happens to have by nature the Service outlook on everything, the task of doing the Air Exercises was indisputably hers by right of conquest.

It was in her capacity as the representative of THE AEROPLANE that Mrs. McAlery had the privilege of being, so far as can be discovered, the only woman who has flown over England at night in a Service machine. There was a story during the War that a woman's body was found among the wreckage of one of the Zeppelins brought down near London. But that story was never confirmed.

For the benefit of those who read Mrs. McAlery's account of the night bombing of London which appeared in an evening paper one would point out that a good deal of what appeared under her name was the result of editing or sub-editing. She was responsible for the facts, but not for the fiction.

From her plain and unvarnished description of what happened, together with the official communiqués which are reproduced in the course of her article, readers may gather quite a clear idea of what was actually done. And they will see for themselves to how great an extent the affair was purely an exercise as distinct from manœuvres.

The Official Statement.

On the Wednesday of the Exercises Sir John Salmond, Air Officer Commanding in Chief, Air Defences of Great Britain, met a number of newspaper representatives who were invited to Uxbridge.

To these representatives Sir John said that the exercises were only devised to test the defensive system, in other words to find out some of its weak spots. The whole defence system had only been going for two years and it would take all of eight years to complete it. Therefore it was at present only a quarter developed and its development was not uniform all over. The organisers of the defences had concentrated on essentials only, so some sides of the defence had had more attention than others, and as a whole it was not developed to a quarter of its ultimate extent.

Sir John pointed out that the system was very complicated. The communications, as between observation posts all over the country and headquarters, were very intricate, so special attention had been given to them. During these exercises only the telephone lines of the General Post Office could be used. In time of war they would have direct lines. He remarked that the General Post Office had been very kind and seemed always ready to help the R.A.F. right through the year during minor exercises.

Other complications were caused by the necessity for co-operation between the Air Force and the sound-indicators and searchlights. It took a long time to train the men, they were all Territorials and had a lot to do in a short time. But they were all extremely keen and worked very hard when they could spare time to get to their work. He said that the more public attention was drawn to the work of these Territorials the better.

In this one quite agrees with Sir John because apparently people think that the whole Air Defence of Great Britain is to be done by our small but highly efficient Air Force, and they do not realise in the least that to a very great extent the proper working of our defences will depend on our Territorial Army.

Sir John pointed out that all the ground-work was complementary to air defence and that the whole lot must work as one man.

He added that the defence of London in particular always had over it the shadow of the time-factor. An invading aircraft would only take twenty-five minutes to get from the coast to London, so very high training was necessary to give the defences warning of its approach. In these exercises, he said, the ground communications had worked very well.

All the observation posts were manned by volunteers, and they had to turn out at odd times of the year to train. The progress made in the working of the outposts and centres in the last twelve months had been remarkable.

Finally Sir John pointed out that it was impossible to have proper Air Manœuvres till the whole defence system was complete. And that would be six or eight years ahead.

Only broad lessons could now be gathered. Consequently, he remarked, it was rather premature to say, as some papers had said, that London had been theoretically wiped out by the invaders. For one thing, casualties were not allowed to exist in these exercises. Bombers which would be put out of action as casualties in real manœuvres were allowed to carry through for the sake of the training of the personnel.

As to the personnel, Sir John said that we had the very finest material to work on. And in conclusion he pointed out that when the Air Defence system was complete it would be time enough to judge whether it was likely to be effective.

Strength.

On one's own account one would like to add a few further remarks. One thing, of course, is quite clear, and that is that the strength of the Fighting Area, R.A.F. is obviously inadequate to the defence of London, even with the most perfectly organised ground communications. And admitting that balloon-aprons and anti-aircraft guns can well be the main defences of London itself, we must still remember that the Fighting Area belongs to the Air Defence of Great Britain and not simply to the London Air Defence Area.

But, after all, to say that the strength of the Fighting Area is inadequate is merely to say that the strength of the whole Air Force is inadequate. So there is no particular use in arguing the point. All we can do is to pray that when the next war comes the Air Force will not have to be used to defend London, but that all the training for that purpose will be found equally useful in defending the chief fixed points of the British Expeditionary Force (Army and Air Force combined) on the Continent of Europe.

Headquarters, Supply and Repair Depots, big Rest Camps and Concentration Camps, Railheads, Debarkation Points, and so forth will have to be protected against enemy aircraft very much as London would have to be protected. And the more song we can make about the defences of London the more likely we are to get the money which we need to build up an Air Force which will do on the Continent the much more important work of (a) defeating the enemy in the air, and (b) defending our ground forces,—which are at the finish the only forces which can win a war and keep it won.

The Staff.

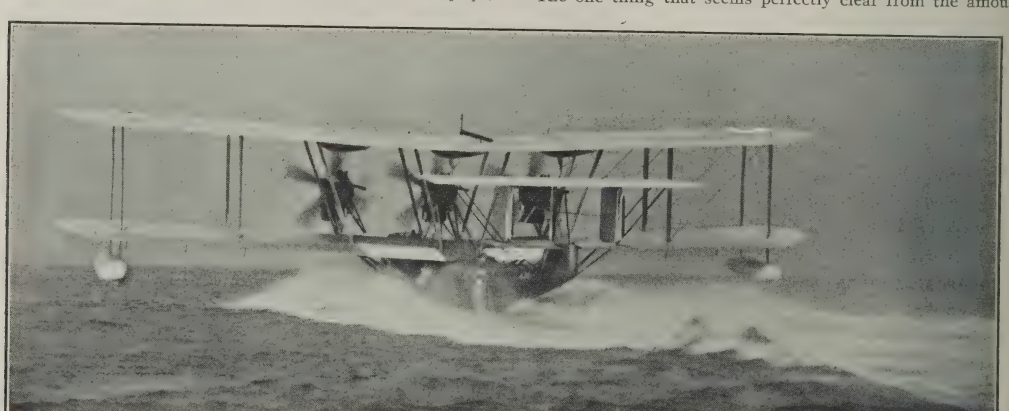
Another point which ought to have been very clear to those who followed the exercises at all closely is that the Staff of the Air Force is seriously over-worked. There is such a vast amount of pure Staff-work to be done in dealing with fighting mechanisms which move as fast as aircraft do, and carry so many different forms of equipment and do so many different jobs, that the amount of Staff-work necessary to handle one machine or one flight or one squadron is simply colossal.

During the war 1914-18 the reproach used to be hurled at the Air Force that it took thirty men on the ground to keep one aeroplane in the air. Considering that one aeroplane probably made as much war on the enemy as about three hundred men on the ground could do, the balance even then seemed in favour of the aircraft.

But with the increasing speeds and general usefulness of aeroplanes as war-makers we shall have no just cause to grumble if we find in the next war that besides needing thirty men on the ground to keep each aeroplane in the air, we need not less than three Staff officers on the ground (or under-ground in operation rooms), for each aeroplane if we are to make the best use of our air strength.

A Wireless Necessity.

The one thing that seems perfectly clear from the amount



A MAIDEN VOYAGE.—The Blackburn Iris II (three Rolls-Royce Condor engines) taxying away from the slipway at Brough after her launch on Aug. 2. She has an all-metal hull and is equipped for an effective range of 14 hours.

AIRCRAFT
OF ALL TYPES.



"Flight" Photo.

THE "HORSLEY."

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of night flying which has to be done in the process of training is that we must have before very long some kind of wireless apparatus which will warn the pilot of one aeroplane when he is approaching another.

Possibly some day we may even evolve a simple little apparatus which will tell the pilot of each machine precisely the direction in which to look for the other. But at the present moment it will probably be enough if he is warned that there is another aeroplane within about two miles of him. After all, a two-mile radius gives him less than a minute in which to look round and find where the other fellow is.

Incidentally, such an apparatus will soon be quite useful for Civil aircraft when flying in fog or really bad visibility. By the time a few thousand people have taken the advice of the de Havilland Company's advertisement to "keep off those crowded roads" we shall have to set to work very seriously to avoid collisions in that crowded sky. So here is a fresh opportunity for our good friends the Marconi Company.

In Conclusion.

Taken all round, the exercises were highly entertaining, being both instructive and amusing. The flying as usual was magnificent, and the scarcity of forced landings showed the high efficiency reached by the engineers of the R.A.F., despite the bleating of agitators that engineers do not exist in the Service. The R.A.F. put up a very good show. But one hopes that in six years' time the defence will be a good deal more than four times as strong.—C. G. G.

THE AIR DEFENCE EXERCISES.

[By C. M. McAlery.]

The first annual tactical exercises of the Air Defences of Great Britain began at 10.00 hours on July 25 and ended at 17.00 hours on July 29.

In a short article in The Aeroplane of July 27, it was explained that the object of these exercises was to test the development of the Air Defence scheme. For this reason the exercises were always under a certain amount of control by Headquarters of the Air Defence of Great Britain, even on the 26th and 27th, the two days on which the Air Officers Commanding the Bombing and Fighting Areas conducted their own operations.

Judging the Exercises from this standpoint alone, it is impossible to draw any definite conclusions as to the results obtained. But from the Service point of view no doubt innumerable lessons have been learned and much valuable experience gained.

From the point of view of those outside the Service certain obvious facts have appeared, and any amount of theories and opinions have been expressed.

The Authorities have explained that no definite conclusions can be deduced from these exercises, but perhaps it is permissible to say that these Exercises have once more impressed certain obvious conclusions on anyone who has followed them closely.

First and foremost the Fighting Area plus the Ground organisations, capable as they are of rapid and effective expansion, can never in themselves completely protect this country from air attack. Great Britain's potential enemies must be prevented from employing their air arms by destroying the bulk of such forces before they start. For this purpose the Wessex Bombing Area exists and it is in this part of our defensive system that safety lies.

In the course of Exercises lasting five days and five nights, two nights' operations were cancelled on account of weather In actual warfare the weather on those two nights would not have prevented operations. In spite of this 105 raids were attempted, and although full details of the measures of their success cannot be decided for some time, it is believed that the majority of them succeeded in attaining their objective.

Umpiring.

The Umpires were on the ground, or in one of the machines in a formation. Ordinary rules of the air were observed. The Umpires' machines were marked with three white streamers, one on each outer strut and one on the tail.

The Umpires had three methods of signalling their decisions: (A) R/T if available, (B) Very Lights. A red light to signify casualties in the opposing formation, a green light to signify casualties in the Umpire's formation. Each light represented a maximum of three machine casualties. (C) An Aldis Lamp using red and green shutters. The beam of the lamp was aimed at the leader of the formation when giving signals, and was acknowledged by flashing a navigation light or firing a Very Light.

In assessing casualties in a combat between Fighters and Day-bombers, the Umpires awarded as casualties half the difference in strength against the smaller formation.

For instance if six fighters met four single-engined bombers the casualties would be one bomber. That is to say, the fighters having a majority of two machines, one bomber would be reckoned as having been shot down.

In the case of fighters against twin-engined bombers the Umpire doubled the strength of the twin-bombers and then awarded half the difference in strength against the smaller formation. Therefore when five twin-engined machines were attacked by six fighters the casualties were two fighters. That is to say, 5 twin bombers were reckoned as 10 fighters, This gave a majority of four machines attacked. So two attackers were written off.

The method of assessing anti-aircraft casualties on either side was not revealed.

During these Exercises the Squadrons were working on a peace-time basis and in certain cases only part of a Squadron was employed.

Machines which were assessed as destroyed were recorded as casualties, but rejoined their Units for the next operation. This served the dual purpose of treating the machines as reserves and exercising the pilots throughout the week.

Umpires were also stationed at each objective.

Educating the Public.

By the courtesy of the Authorities a party of Press representatives was allowed to visit the various stations from which the R.A.F. and Ground organisations were operating. Not only was every possible facility for seeing and understanding afforded to this party, but a senior officer went with them to see that they did not miss anything.

The programme arranged for the Press representatives included visiting the aerodromes of day and night fighter Squadrons, day and night bombing Squadrons, operations rooms, searchlight and intelligence stations and the objectives. A flight over the Defences of London in a night-bomber was also available for anyone who wanted to go.

Précis reports of the operations were issued twice daily and were sent by telephone or despatch-rider from H.Q. to whatever Unit was being visited at the time of issue.

In addition to these facilities all those connected with the Exercises seemed to make a point of being as helpful as possible, and were always ready to answer questions and explain details.

As a member of the Press party one hopes but does not imagine that it was not an intolerable nuisance. If any of the people in the Service who took such infinite pains to make everything clear to the Press representatives, found on reading the newspapers a large amount of inaccuracy and misstatements in them, let it be explained that in addition to the essential errors of misunderstanding, as well as errors of transmission and transcription, there are also Editors and sub-Editors, a strange race who imagine that the British public has less intelligence than it has, and act according to their lights.

In the Fighting Area.

The first visit of the tour was made to the R.A.F. Station at Northolt during the morning of July 25. No. 41 (Fighter) Squadron had just returned from a patrol and No. 17 (Fighter) Squadron was "standing by." Under this order the engines were run up every half-hour ready for the order "stations," at which the machines are manned and ready to take off.

A simple method of issuing final instructions to pilots while the engines are running is used at this Station. The orders are chalked on blackboards fitted on the two sides of the fire-engine tender, and the tender is then driven past the front of the lined-up machines.

As the Observer Corps was not working on this day, messages with a good margin of error were "faked" at Headquarters and signalled to the Squadrons to represent messages from the Observers.

After No. 17 Squadron had taken-off we left Northolt for Uxbridge to see the operations room. This was practically identical with the one we had seen in London on the previous Friday, except that the Uxbridge one was in full working order and the temporary stations of the Defence Units were shown and records had been made of the progress of the raids.

The maps showed the Anti-Aircraft zones, the searchlight zones, and the various sectors in which the fighter Squadrons were working.

First Operations.

The official summary of the operations from the outbreak of the "war" until 17.30 hours was as follows:—

July 25.

Up till 08.00 hours a continuous cloud layer at 2,000 feet aided the Defences, but from that hour onwards increasing gaps in the cloud layer have made bombing possible from above and seriously hampered the operations of the Fighting Patrols.

During the morning several Raids managed to reach their objective without being intercepted, but during the afternoon and evening no attacking Squadron reached its objective without severe casualties.

The lessons learnt during the day have been of the greatest value and the influence of meteorology and cloud formations on Air Defence Operations has been strikingly brought out.

The Raids.—1. No. 11 Squadron crossing the coast at Havant at 08.14 hours attacked the Chelsea Area at 09.30 hours. The target was obscured by low clouds, but at 10.05 hours the machines were observed by the Target Umpire to be only 300 yards from the Target. No. 41 Squadron which took off at 08.20 hours flew on its patrol beat until 09.45 hours but did not succeed in intercepting them on account of clouds.

[No. 11 Squadron have Hawker Horsleys (Condors) and No. 41 Squadron Siskins (Jaguars).]

2. No. 12 Squadron which was reported over Petersfield at 09.00 hours attacked the Chelsea Area at 10.00 hours from a height of 15,000 feet. The target was obscured by clouds and the formation leader reported afterwards that the results of his bombing could not be observed. No. 32 Squadron which took off at 09.20 hours patrolled until 11.27 hours but did not succeed in intercepting owing to the weather.

[No. 12 Squadron have Fairey Foxes (Curtiss D.12) and No. 32 Squadron have Gamecocks (Jupiters).]

3. No. 207 Squadron crossed the coast at Shoeburyness at approximately 08.00 hours but the raid failed on account of low clouds.

[No. 207 Squadron has D.H.9as (Libertys).]

4. No. 12 Squadron crossing the coast east of Bognor at 12.04 hours attacked the Chelsea Area from 8,000 feet at 13.08 hours and suffered severe casualties from A.A. fire. Owing to a layer of clouds at 4,000 feet the Target Umpire could not report any results. Nos. 43 and 17 Squadrons were sent up to intercept.

[No. 43 Squadron has Gamecocks (Jupiters) and No. 17 Woodcocks (Jupiters).]

5. No. 39 Squadron crossed the coast near Ipswich at 11.10 hours but on account of the weather most of the machines turned back. Afterwards conditions being more favourable four machines returned to the attack and attacked Kidbrooke from 10,000 feet. Owing to the clouds there was no interception.

[No. 39 Squadron has D.H.9as (Libertys).]

6. No. 99 Squadron crossing the coast at Aldeburgh at 13.45 hours made for the Chelsea Area but were intercepted at 14.41 hours over Great Sampford by No. 19 Squadron. This raid was also intercepted over New Cross at 15.47 hours by No. 56 Squadron, which was searching for another enemy raiding squadron, and were presumed beaten off.

[No. 99 Squadron has Hyderabads (Lions), No. 19 Squadron Grebes (Jaguars) and No. 56 Squadron Siskins (Jaguars).]

7. No. 11 Squadron arrived over the Chelsea Area at 15,000 feet at 15.07 hours. The Target Umpire reported the bombing as accurate. No. 32 Squadron patrolled for over two hours but did not succeed in making contact.

8. No. 207 Squadron crossed the coast at Hastings at 14.40 hours but was intercepted by No. 25 Squadron over Ashford at 15.17 hours and fighting ensued.

[No. 25 Squadron has Grebes (Jaguars).]

Kenley.

In the afternoon we went on to Kenley, where three Squadrons were operating. These were No. 32 (Fighter) Squadron on daylight patrols, No. 23 (Fighter) Squadron on night patrols, and a detachment of No. 99 (Bombing) Squadron.

No. 23 Squadron was divided into two watches operating separately throughout the night. No. 99 Squadron, belonging to the attacking force, was operating in an area different from the two Fighter Squadrons, and therefore their presence at Kenley gave no advantage to either side.

As an actual fact on the night of the 28th two machines from No. 23 Squadron attacked and "destroyed" a machine of No. 99 Squadron, but the engagement was presumably outside the scope of normal operations as will be explained later.

Here again the greatest courtesy and assistance was shown to the representatives of the Press. One Squadron Leader and two Flight Commanders were subjected to a bombardment of questions. These interviews were most amusing because of the difference between the versions of any one raid given (A) by the bombing Squadron, (B) by the fighter Squadron and (C) by the Umpire, in the official précis.

One pilot of a day-bomber was asked if the raid in which he had just taken part had been intercepted. He said that the raid had been most successful; they had seen one small fighter patrol in the far distance but it had not seen them. Later in the day one visited the station of a Fighter Squadron, and was told that they had intercepted and driven off a raid of day-bombers. The time and place coincided with that mentioned by the bomber pilot.

The official communiqué said that the day-bombers had been engaged twice by fighter patrols and totally destroyed. Which reminds one of the old cricket story of the batsman who explained that cricket was a game in which one could be bowled out, run out, caught out, or umpired out.

Kenley is one of those aerodromes which should have an agricultural expert on the strength of the Unit. There is a valuable crop of hay there tripping up the aircraft instead of being cut and usefully employed as feed for horses, rabbits or what-nots. There are some marvellous earthworks of the exact design and dimensions of a farmer's winter storage of mangold-wurzels (technically known as a beet-hale). Furthermore, one understands that a laurel (or was it aspidistra?) plantation in front of the officers' mess has failed to survive through lack of expert attention. Also the surface of the aerodrome has subsided into a series of wide ridges which has presented an insoluble problem to the Works and Bricks Department.

As far as one can see the only remedy for this is to banish the Squadrons at Kenley to one of the disused aero-



OUR DEFENDERS.—Gloster Gamecocks (Bristol Jupiters) of 32 Squadron (Kenley)—Single-seat fighters used in the defence of London during the Air Exercises.

dromes on Salisbury Plain while Kenley is ploughed up, used at great profit by the agricultural expert for a rotation of crops, and then re-sown with grass. This scheme is hereby offered to the Authorities without prospect of fee or reward.

Biggin Hill.

From Kenley we trekked to Biggin Hill, where we found No. 56 (Fighter) Squadron sharing their aerodrome with No. 3 (Fighter) Squadron (Woodcocks with Jupiters), the latter on night-flying duties.

Here we had a good example of the prevailing weather conditions in this part of Kent. Low clouds from the Channel strike the ridge on the other side of the Westerham Valley, distil over the Valley and descend with full force on and around Biggin Hill. Visibility was about 50 yards by 21.00 hours, and at 22.45 hours all further operations were cancelled.

The Searchlights.

Part of the evening was spent examining one of the Searchlight Units of the ground organisation. Although all the searchlights operating in the exercises were Territorial Units, this particular one was an instructional one lent by the Royal Engineers.

Each searchlight with its own sound-indicator is manned by a party of eight men under an N.C.O. These detachments are mobile and are transported with their equipment in a petrol-electric lorry.

During actual operations the power of this lorry is used for the searchlight itself. The men are armed with rifles and their duties are allocated as follows :—Two listening at the sound indicator and a third registering. Three on the searchlight itself. One lorry driver and one spotter.

The spotter is posted twenty yards from the light and is equipped with binoculars and a megaphone. His reports take precedence over the reports from the sound indicator.

The mechanical details of the sound indicator are not available for publication.

The official communiqué, issued the following morning, was as follows :—

The last mentioned raid in yesterday's précis (No. 8)—that of No. 207 Squadron—which was intercepted by No. 25 Squadron over Ashford suffered heavy casualties but a portion of the formation reached Westminster. It is judged that this formation which flew at medium height would have suffered further casualties from the Anti-Aircraft fire and so was finally unable to bomb its objective.

Night Raids—Night 25/26-7-27.—1. *Weather:* The weather which had cleared very quickly towards sunset thickened up towards 22.00 hours by which time a number of raids had already left their aerodromes to attack London. At about that hour low clouds commenced drifting up from the South-West partly covering the sky. By midnight the sky in the Essex Area had become completely overclouded and in the South-East indication of similar conditions were evident. In the South-West clouds became as low as 15 feet above the ground. In view of the forecast of the conditions becoming adverse the A.O.C.-in-C. decided at 22.45 hours to cancel further operations.

2. *Raids.*—(i) Between 21.30 hours and 22.40 hours 4 single machine bombing raids of No. 58 Squadron left Worthy Down to attack London from the South through the zone lighted by searchlights and patrolled by night fighting squadrons immediately south of London. Soon after the departure of these machines clouds covered the aerodrome at Worthy Down and machines already in the air were instructed by wireless not to return to it at the conclusion of the raid without further information. A clearer sky later enabled all machines to land except one. In consequence night fighters remained on their aerodromes and the raids in the air were instructed by wireless to return to their aerodromes.

(ii) Simultaneously with these operations, 4 single machine raids were despatched by No. 99 Squadron from Bircham Newton to attack London approaching from the North-East. These machines were intercepted by wireless in the air and instructed to return to their aerodrome.

[No. 58 Squadron has Virginias (Lions).]

(iii) No. 9 Squadron, Manston, also despatched 4 individual machine raids to attack London from the East between the hours of 23.30 and midnight. When the order to cease night operations was broadcasted by wireless two of these machines were over London. They, therefore, bombed the objective on their particular raid and returned home, landing just before 01.00 hours.

[No. 9 Squadron has Virginias (Lions).]

In spite of bad weather for night flying, with one exception, machines of all squadrons returned safely. One machine of No. 99 Squadron was compelled to land with minor engine trouble on the East coast near Felixstowe; it landed successfully at 23.30 hours without injury to either personnel or aircraft.

The necessity for the provision of emergency landing grounds for night operations in a climate as changeable as that of England was clearly demonstrated. On this occasion all emergency landing grounds were lit. One of these landing grounds was overrun by a crowd of spectators. This would have proved extremely dangerous for spectators and for any machine about to land. The efficacy of wireless was clearly demonstrated in this instance as all machines in the air were warned of the circumstances and instructed to avoid this landing ground if possible.

With the Bombers.

The proposed itinerary for Press representatives for Tuesday, July 26, turned out to be rather an optimistic one. Some of us arrived at Netheravon at noon according to plan. Others fell by the wayside.

Netheravon was busily engaged in despatching a Flight of Horsley day-bombers of No. 11 (Bombing) Squadron on a bloodthirsty errand connected with the Duke of York's H.Q. at Chelsea.

At the "stand-by" signal the four machines were pulled out of their shed up a sharp incline onto the aerodrome, loaded with bombs, and started up. The time taken in doing all this with the first machine was 2¼ minutes.

This speed is even more creditable when one realises that this Flight had already done one raid in the morning and that the airmen's mess is nearly a mile and a half from the Flight shed, which meant that they had done a long morning's work and then walked nearly three miles to their dinner and back

Each machine was loaded with two 250-lb. bombs or four 112-lb. bombs. To allay any anxiety for their personal safety on the part of the citizens of London during any future manœuvres, it should be explained that these bombs are left behind when the machines start.

However, during these exercises, no handicap was placed on these machines as a substitute for their lack of bomb load on the actual flight to the objective. It might be fairer to give them water or sand ballast which could be discarded safely over the target.

From Netheravon we returned to Andover, having abandoned the visit to Worthy Down by a majority vote owing to pressure of time.

At Andover a raid by Foxes of No. 12 Squadron had just taken off and full details of the day's operations from the Eastland point of view was supplied in the operations room. We finished the day at Uxbridge and again the majority vote decided against carrying on to the Night Squadrons again according to programme, most of the party pleading exhaustion. (The Aeroplane's representative was in the hardier but outnumbered minority.)

The official report of the 24 hours ending 07.00 hours on the 27th was :—

1. *Weather.*—The weather again favoured the attackers, scattered clouds having interfered with the operations of the Fighters but the height of the upper cloud layer has permitted bombing machines to attack their targets in some cases from 15,000 feet. The weather in the south has gradually improved during the day and the raids coming from that direction have been an easier task to carry out than those from the north. The ground visibility has remained good throughout the day, which would have been an advantage to the Anti-Aircraft guns of Ground Defences if they had been in operation.

Up to 16.00 hours six raids had been despatched of which two had failed on account of the weather, two had reached their objectives without being intercepted, whilst the other two suffered such severe casualties from fighting patrols that in war they would not have reached their objectives.

2. *Raids.*—(a) No. 39 (B) Squadron which was due to leave the ground at 07.00 hours was unable to take off owing to low clouds and rain. The raid, therefore, failed.

(b) No. 11 Squadron left its aerodrome at 07.45 hours in order to bomb Kidbrooke. This raid was however intercepted by No. 32 Squadron at 12,000 feet, two miles west of Tunbridge Wells. Although the raid continued on its course and bombed its objective it was



GETTING READY.—Handley Page Hyderabads (Napier Lions), of 99 Squadron (Bircham Newton), which were used for the attacks on London during the Air Exercises.

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afterwards adjudged to have been destroyed owing to the heavy attack by fighters.

(c) At 08.45 hours No. 12 Squadron took off from Andover crossing the coast at Bognor carried out a bombing attack on Chelsea. Owing to observations being rendered difficult by layers of clouds No. 41 Squadron failed to intercept this raid before it crossed the aircraft patrol area. The raid carried out a successful bombing attack on Chelsea in spite of the sky being overcast by clouds.

(d) One flight of No. 207 Squadron left the ground at 11.15 hours and approached London from the South-East after crossing the coast at Rye. When three miles North-West of Sevenoaks this raid was attacked at 8,000 feet by No. 56 (F) Squadron who inflicted heavy casualties. It was adjudged that this raid was effectively prevented from reaching its objective.

(e) A second flight of No. 207 Squadron left its aerodrome at 12.00 hours in order to bomb Kidbrooke and approached London from the East. This raid passed through the fighter patrol area without being seen by the fighter patrol, and carried out a successful attack on Kidbrooke from 10,000 feet.

(f) At 13.10 hours No. 11 (B) Squadron took off but owing to encountering very low clouds was unable to proceed so returned and landed at its aerodrome.

The Raids.—(1) When the Summary of Operations was compiled at 4 o'clock on the afternoon of Tuesday, the 26th, one bombing raid was still in progress.

(2) No. 39 Squadron crossed the coast at Harwich and approached London from the North-East with the object of attacking Kidbrooke. This raid was sighted in the distance by a fighter patrol, but owing to broken and thick clouds, was able to evade the fighter squadron.

(3) Although the London district was partly obscured by clouds, this raid carried out a successful attack on its objective. The night was, on the whole, fine and clear. At about 2 a.m., however, thick weather came up from the West necessitating the recalling of aircraft still carrying on operations.

(4) The operations of the night were designed to test the organisation of the ground observers and searchlights. At the same time, practice was given to the selected fighter squadron in night operations.

(5) During the night a total of 28 raids was carried out on London by aircraft of Nos. 7, 9, 58 and 99 Bombing Squadrons. Of these raids 16 were intentionally given a route approaching London through an area lighted by searchlights and patrolled by two Fighter Squadrons. The remaining 12 raids were made to approach London from the northward, so as to be clear of the area so lighted by searchlights. The object of this was to prevent the small area lighted for the purpose of these exercises becoming unduly congested by bombers and fighters.

(6) In the area lighted by searchlights Nos. 3 and 23 Fighter Squadrons inflicted heavy casualties on the raiding aircraft and it was judged that few raiders, if any, would have escaped destruction.

(7) Though the searchlights were operating in an area only half their war time depth, they successfully picked up and illuminated several of the raiders. The intelligence report on which the Fighter Patrol were despatched were provided by the Observer Corps which rendered extremely valuable assistance to the Defence. Timely warning of the approach of enemy raiders is vital to the Defence Commander, and this information will, in time of war, be provided by the Volunteers, now most efficiently carrying out these duties.

(8) When adverse weather was reported at 2 a.m. orders were issued to bombers on their way to London to return to their aerodromes. Owing to the bad weather, however, 5 machines were unable to reach their own aerodrome, and landed at other aerodromes specially lighted for the operations.

The Targets.

The four military objectives of the raids were (a) The Duke of York's Headquarters, Chelsea, (b) the R.A.F. Stores Depot, Kidbrooke, (c) Hillingdon House, Uxbridge, and (d) Staines Reservoir.

On the morning of the 28th the party of Press representatives visited the Duke of York's Headquarters. These barracks are normally the Headquarters of the Anti-Aircraft Batteries of Territorials. There are nine A.A. guns on the square and a number of searchlights.

There is also a specimen of the new portable type of *camera obscura*. This instrument looks exactly like the canvas wig-wams put up in the road by an advance party of road-breakers. In reality it is a light-proof canvas hut of indescribable stuffiness on a light metal framework.

In the roof is a powerful lens which reflects that part of the sky immediately above it onto a table. The operator traces the course of the raiding aircraft overhead by a series of pencil dots, timing the dots with an ordinary metronome. The operator is in telephonic communication with a wireless operator in an adjoining wireless hut. The wireless operator reports the approach of enemy aircraft as he receives the messages from the other centres of the ground organisation.

By a complicated arrangement of plotting and timing the operator in the *camera obscura* is able to have a very good idea of the location of each bomb dropped by the enemy aircraft.

A raid was in progress during our visit to this objective and it was possible to follow the course of the formation of three D.H.9as across the sky on the chart in the *camera obscura*.

The official summary of operations for that day from 07.00 hrs. to 16.00 hrs. was :—

Weather.—The weather over the area of operations has been variable. Intervals of bright sunshine have been followed by local thunder or rain storms. A strong and gusty S.W. wind of 40 miles an hour has helped the attackers coming from the South and West.

General.—On the whole the weather has been favourable to the raiders as large masses of broken cloud have afforded concealment to them. Six raids have been carried out on the London Districts and of these, 3 were intercepted by Fighter Patrols, one being destroyed on its homeward journey after bombing London. Two bombed their objectives without being intercepted. One raid coming from the South-West had to return home owing to bad weather before it had crossed the coast. The Observer Corps will again assist the Defence from 6 to 8 p.m. to-night.

Précis of Raids.—(a) No. 207 Bombing Squadron crossed the coast at Foulness at 8.15 at 10,000 feet with the object of attacking Chelsea from the East. This raid was intercepted by Nos. 56 and 111 Fighter Squadrons, 4 miles east of Romford at 11,000 feet on its return journey and suffered heavy casualties.

(b) No. 11 Bombing Squadron crossing the coast at Havant at 8.45 a.m. at 3,000 feet attempted to attack London from the South-West but owing to low clouds was compelled to abandon the raid and return to its aerodrome. No. 17 Fighter Squadron was sent up on Patrol to intercept this raid but did not have a chance of attacking the enemy because the Raiders had turned back before reaching the Patrol Area.

(c) At 9.30 a.m. No. 207 Bombing Squadron crossed the coast at 14,000 feet a second time at Foulness with the object of attacking Chelsea. This raid was not intercepted by Fighter Patrols and bombed its objective from 12,000 feet but results were poor owing to clouds obscuring target. The Raid returned home without being seen by the Fighter Squadrons.

(d) No. 11 Bombing Squadron took off at 11.15 and crossing the coast at Shoreham approached London from the South. This raid was intercepted by No. 32 Fighter Squadron on two occasions, over Epsom at 18,000 feet and Coulsdon at 12,000 feet and suffered such severe casualties that it would have been prevented from reaching its objective.

(e) No. 12 Squadron took off at 11.52 and crossed the coast at Bexhill with the object of attacking Chelsea. This raid was not intercepted and bombed its objective.

(f) No. 12 Squadron took off at 13.40 and crossed the coast at Bognor with the intention of bombing Uxbridge from the South. No. 43 Squadron, however, attacked this raid as it crossed the coast and inflicted heavy casualties.

The raid therefore would not have reached its objective.

The following is the summary of operations from 16.00 hours on July 27 to 07.00 hours on July 28 :—

1. *General.*—Six further day raids were carried out in addition to those mentioned in the last summary, four of which reached their objective without being intercepted. Two were attacked by a Fighter Formation. One of the four successful raids was attacked on its home journey The weather conditions were again favourable to the bombers.

2. *Observer Corps.*—The reports made by the Observer Corps were again excellent and were of great value to the Defence.

3. *Night Raids.*—Owing to low clouds and drizzle over the London area, flying conditions became dangerous for peace operations, although they would have been possible for night bombing in war. At 23.00 hours the A.O.C.-in-C., therefore, cancelled further operations till dawn.

4. *Day Raids.*—1. One flight of No. 29 Squadron crossed the coast at the Naze at 18.15 hours at a height of 5,000 feet. It encountered No. 19 Squadron over south of Brentwood at a height of 10,000 feet at 19.10 hours. The Fighters saw them over Chelmsford, but were unable to attack. The Bombers therefore reached their objective, Chelsea.

2nd Raid. One Flight of No. 39 Squadron crossed the coast over Harwich at 8,000 feet at 18.30 hours. It encountered no enemy, and reached its objective at Chelsea.

3rd Raid. One Flight of No. 207 Squadron crossed the coast in the region of Manston at 10,000 feet at 18.33 hours. It was attacked by three Grebes over Chislehurst at a height of 10,000 feet at 19.26 hours.

4th Raid. One Flight of No. 207 Squadron crossed the coast over Rye at 10,000 feet at 19.00 hours. It was intercepted over Dulwich at 19.33 hours by No. 25 Squadron, who attacked at 10,800 feet. Umpire reports one casualty to Bombers and one to Fighters.

5th Raid. One Flight of No. 12 Squadron crossed the coast at Bexhill at 1,500 feet at 18.15 hours. It encountered no defending aircraft and bombed Hillingdon House from 600 feet at 19.00 hours.

6th Raid. One Flight of No. 12 Squadron crossed the coast over Shoreham at 1,200 feet at 18.35 hours. It was sighted by No. 41 Squadron over Uxbridge just before it dropped its bombs on Hillingdon House at 19.03 hours, and it was attacked on the return journey over Sutton at 19.06 hours at 1,000 feet. Umpire adjudged no casualties.

5. *Night Raids.*—Nil.

6. All machines in the air at 11 p.m. were ordered back to their aerodromes by wireless on account of the weather conditions over the objective.

From the night of the 26th until the night of the 27th the whole of the Observer Corps was in action. This was their first opportunity of proving their worth. The entire work of observing and reporting is done by Special Constables who have been organised and trained during the past three years with the assistance of the Chief Constables of the Counties and Boroughs. Therefore in time of peace they can only be mustered at full strength for short periods.

Only a small part of the country is at present organised. But 99 posts were operating and without exception valuable and accurate information was received from them.

On the night of the 27th those members of the Press Party who had applied for flights over the London Defences in the Night Bombers reported to Kenley and waited in vain. There were several layers of dense cloud. Fine rain fell incessantly and there was a strong wind at 2,000 feet. Operations were cancelled at 23.00 hours.

It should be explained that in actual war operations would not have been cancelled. In fact raids did start from other parts of the country where the weather was better, but at Kenley it was considered that flying in such weather would

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involve unnecessary risks considering that these were only Service exercises.

Some Personal Experience.

The weather had cleared and the wind, which had veered in a westerly direction had dropped by 21.00 hours on the 28th.

Two Handley-Page Hyderabads (two Napier engines) of No. 99 (Bombing) Squadron were detailed to take the four Press representatives on a short flight over a sector of the London Defences. The object of this particular flight was to test the Observer posts and searchlights. The flight lasted ninety minutes and was done at an average of 4,000 feet.

We were equipped with Irvin parachutes of the standard Service pattern and accommodated in the gunners' cockpits of the two machines. Everything possible was done by the members of the Squadron to make the flight interesting and comfortable. They lent us Sidcot suits, helmets and goggles and flying gloves and gave us an outline of the route which would be followed.

We took off at 21.45 hours and climbed steadily in the direction of East Grinstead, from which point, theoretically, we entered the war zone. Just over East Grinstead we got three distinct bumps. There did not seem to be any reason for these bumps,—perhaps cross-Channel pilots may have experienced them. We circled round East Grinstead to fill up the few minutes we had to spare and then flew towards Biggin Hill.

Over Westerham, about six or seven minutes after we had "crossed the coast," the first searchlight picked us up, —smart work by the Defences. We dived steeply towards the searchlight and came out on a lower level in darkness again.

That first dive was rather alarming. I was standing up in the rear cockpit looking forward when it happened and the flames from the exhaust, caused by throttling back, seemed to come unpleasantly near my head. I sat down hurriedly.

After a few seconds the searchlights got us again. At least three found us and I counted fifteen ranging over the sector. We did every sort of dive and turn but one or the other of them was on us all the time.

Then the Fighters attacked. They were two Gamecocks from No. 23 (Fighter) Squadron. They dived on us from above and behind and literally flew circles round us. Their navigation lights showed plainly as they came down and every detail of the machines showed up as they flew in and out of the searchlights.

If they carried navigation lights in wartime, which of course they would not, they would be a very easy target for the Bomber's gunners. And even without searchlights I think that if the two occupants of the gun-rings had been armed gunners instead of useless load they would not have got away with it so easily.

As it was they added insult to injury by firing green Very lights at close range as an indication that they had claimed us as lawful prey, and then flew off to look for another victim.

It was all very alarming. The uncomfortable feeling of being a target, or part of a target, of enemy aircraft during the late War 1914-18, to my mind was not nearly so acute as being part of a target for the purposes of the exercises of the Air Defences of Great Britain.

When once we were outside the searchlight sector we were allowed to pursue a peaceful course for the rest of the journey. Visibility was so good that we could see practically the whole of London. The Neon light at Croydon aerodrome could be seen during the whole flight and makes the most conspicuous landmark.

The emergency night-landing grounds also showed up very well, the landing "L's" being quite easily distinguished from other lights by the dark spaces round them. At one time I could see Richmond landing lights behind us, Northolt ahead, Brooklands on the starboard bow, and the Wormwood Scrubbs landing ground below.

We turned above Wormwood Scrubbs and came back over Richmond, Kingston, Molesey, Redhill and back to Kenley. We came down onto the aerodrome in a steep spiral with the wing-tip flares alight and made a perfect landing along the line of ground flares.

It should be explained that the whole of No. 99 (Bombing) Squadron was not taking part in these exercises. The Unit stationed at Kenley was a detached Flight of four machines uner Sq. Ldr. W. B. Hargrave, O.B.E. The personnel of the Detachment had a particularly strenuous time during these exercises. They hardly ever turned in before 03.00 hours and were out again about 06.00.

After four days and nights of this one saw the entire personnel, minus the crews of the machines, playing hilarious Soccer with a lump of cotton-waste and newspaper tied round with string, in one of the sheds round about midnight. Needless to say this spirit of cheerfulness and energy under exhausting conditions was not confined to one Squadron.

The official summary of the operations from 01.00 hrs. on the morning of the 28th until 17.00 hrs. on the 29th when the exercises came to an end were as follows :—

1. *General.*—The units of both Fighting Area and Wessex Bombing Area were again working to-day under the direct control of Headquarters A.D.G.B.

2. *Weather.*—Weather conditions were again favourable to the attackers with a wind of 60 miles per hour from South-West over 10,000 feet.

3. *Raids.*—Six raids were carried out of which two failed on account of weather. Two were successful and bombed their objective without being intercepted and two would have been destroyed in war by patrols of Fighting Area. Three additional raids have now been reported as having crossed the coast and action has been taken by squadrons of the Fighting Area, but result has not yet been reported.

The Raids.—(1) Raid abandoned on account of weather.

(2) One flight of No. 11 Squadron crossed the coast near Worthing at 4,000 feet at 08.45 hours. Reached objective Chelsea at 09.10 hours but did not bomb as target was obscured by thick clouds. One flight of No. 17 Squadron was put up to meet raid from 08.50 to 10.24 hours but did not see them. Clouds at 2,000 feet.

(3) One flight of No. 39 Squadron took off from Spittlegate at 07.32 hours but had to abandon raid at 08.20 hours owing to bad visibility and thick clouds down to 500 feet.

(4) One flight of No. 207 Squadron crossed the coast at Havant at 14,200 feet at 12.23 hours. It was intercepted by No. 29 Squadron (6 machines) over Billericay near North Weald Bassett at height of 13,000 feet at 13.20 hours. It attacked Hillingdon House at 13.34 hours, target was covered by clouds.

(5) One flight of No. 207 Squadron crossed the coast at Rye at 15,500 feet at 13.07 hours. It appears to have been intercepted no less than three times (a) by No. 25 Squadron at 13.17 hours, 7 miles North-East of Rye, (b) by No. 56 Squadron over Biggin Hill at 13.47 hours and (c) by No. 56 Squadron over Maidstone at 14.26 hours.

(6) Two flights of No. 39 Squadron crossed the coast at Foulness at 14,000 feet at 13.46 hours. Got through to Hillingdon House which it bombed at 14.46 hours from 14,000 feet. It was seen by No. 111 Squadron over its objective (it is not yet known whether attack was delivered). It was attacked by No. 41 Squadron on its return at 14.50 hours although No. 41 Squadron was looking for another raid.

The summary of operations from 16.00 hours on July 28 to 07.00 hours on July 28 reads as follows :—

1. *General.*—Three other raids took place yesterday evening beyond those already reported. Two reached and bombed their objectives, but both have suffered severe casualties, whilst the third reached its objective but could not attack owing to its being hidden by low clouds.

2. *Details of Raids:—No.* 7.—Two Flights of No. 11 Squadron crossed the coast at Shoreham at 13,000 feet at 14.35 hours. It was attacked continuously by five machines of No. 32 Squadron between Croydon and Tunbridge Wells between 14.45 and 15.08 hours at heights varying between 14,000 and 16,000 feet. The defending aircraft attacks were at first made by single machines or machines in pairs, and the umpire assessed the casualties as two defending aircraft and one bomber shot down. The remaining bombers reached their objective, Chelsea, at 15.05 hours, but were attacked by a Flight of No. 41 Squadron over Hounslow on their return journey at 13,000 feet at 15.25 hours. One machine of this raid became detached and was attacked by a Siskin machine of No. 41 Squadron over Kingston at 15.30 hours.

No. 8 *Raid.*—Two Flights of No. 12 Squadron crossed the coast at Havant at 13,000 feet at 15.18 hours. By dint of coming down to 2,000 feet they managed to elude No. 41 Squadron which had been sent up to intercept them, and reached their objective, Hillingdon House, at 15.45 hours. At this height they would have been subjected to such heavy anti-aircraft and machine-gun fire from the ground in war, that it is almost certain that they would not have reached their objective.

No. 9 *Raid.*—Two machines of No. 99 Squadron crossed the coast at the Naze flying at 3,000 feet at 15.30 hours. No. 111 Squadron, sent up to patrol, saw nothing of them and landed at 17.12 hours. A Flight of No. 41 Squadron encountered them five miles north of Gravesend at 16.45 hours, but could not attack as it had been up so long that its petrol was running short, necessitating landing to replenish it. A second Flight, however, of No. 41 Squadron attacked them over Gravesend at 3,000 feet at 16.75 hours. The bombers were unable to attack their objective owing to its being hidden by low clouds.

Night Raids:—3. *Weather.*—The low clouds which had formed yesterday evening cleared at sunset and the weather remained good until 02.00 hours, when it deteriorated in the south-west owing to the advent of a southerly wind.

4. *Night Raids.*—During the night a total of 22 raids was carried out by machines of Nos. 7, 9, 58 and 99 Squadrons. Fourteen of these raids passed through the sector lit by Searchlights and were very successfully attacked by patrols of Nos. 3 and 23 Squadrons. This success was mainly due to the excellent co-operation between the First Searchlight Battalion, R.E., and the Fighting Squadrons. The remaining eight raids came from the north and east, crossing the coast between Aldeburgh and the Thames Estuary. From 11.30 hours till 01.45 hours, Northolt Aerodrome was continuously attacked from heights varying between 6,000 and 10,000 feet. Four machines raiding from Worthy Down were unable to return to their aerodrome owing to low mist having formed over it after their departure. They landed successfully at other aerodromes.

The summary of operations from 01.00 to 17.00 July 29 reads as follows :—

1. *Weather.*—Peculiar weather conditions have prevailed throughout the day. In the South-West low clouds and rain have prevented some raids from leaving their aerodromes. Over London were two layers of clouds from 3,000 feet to 5,000 feet and from 7,000 feet to 7,500 feet with a clear gap between the layers and a sunlit sky above the top layer. Raiders who approached above the clouds had great difficulty in finding their target whilst those below would have suffered severely from anti-aircraft fire. The cloud layers also rendered the work of the defence fighting patrols difficult.

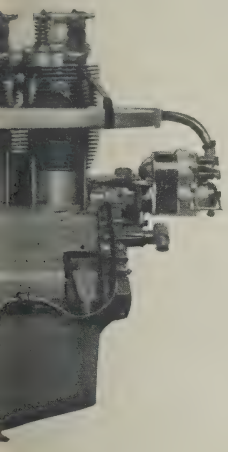
2. *Raids.*—Six raids were attempted of which three were successful.

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Two were intercepted and suffered heavy casualties from fighter patrols and one was forced to give up the raid on account of bad weather.

3. *Précis of Raids:—General.*—During the course of the exercises 105 raids have been attempted. The full measure of success obtained both in attacking and in the defence can only be arrived at after all reports from the various umpires have been sifted and thoroughly investigated.

To-day's raids.—(a) One flight of No. 12 Squadron crossed the coast at Newhaven at 15,000 feet at 08.15 hours, got through to Hillingdon House at 15,000 feet at 08.45 hours. It was not seen from the *camera obscura* and presumably did not succeed in bombing its objective. Two flights of No. 32 Squadron sent up to intercept were unable to see anything of it.

(b) One flight of No. 39 Squadron crossed the coast over Harwich at 08.30 hours and was reported over Colchester at 08.45 hours. It was intercepted by a flight of No. 111 Squadron over Wickford at 15,000 feet at 09.18 hours, it was intercepted by a second flight of the same Squadron over Dagenham at 5,000 feet at 09.26 hours. Though it arrived over the target at 09.40 hours at 10,000 feet it was not observed from the *camera obscura*.

(c) Two flights of No. 39 Squadron crossed the coast at Aldeburgh at 13,000 feet at 12.53 hours and was reported over Ipswich at 14,000 feet at 13.37 hours, it was intercepted by a flight of No. 19 Squadron over Dunmow at 14,500 feet at 14.00 hours. It reported that it was unable to bomb its objective, Chelsea, as the target was covered with clouds.

(d) Two flights of No. 12 Squadron crossed the coast west of Portsmouth at 1,400 feet at 14.50 hours and after passing over Petersfield at 15.11 hours was recalled on account of thick clouds.

(e) Three flights of No. 11 Squadron crossed the coast at Bognor at 6,000 feet at 14.25 hours and after passing over Petworth at 10,000 feet at 14.39 hours claim to have reached their objective, Hillingdon House, at 15.00 hours flying at 17,000 feet. It was not seen or heard by the target umpire.

(f) One flight of No. 99 Squadron crossed the coast at Harwich at 10,600 feet at 14.40 hours. It was reported over Great Waltham at 12,000 feet at 15.19 hours, over Margaret Rodding at 15.27 hours and arrived over its target, Hillingdon House, at 16.16 hours. It was intercepted and attacked as it was arriving at its objective by eight machines of No. 41 Squadron at a height of 2,500 feet at 16.15 hours. It is also believed to have been intercepted on its journey there by No. 29 Squadron.

4. As already announced the exercises terminated at 17.00 hours to-day.

General Conclusions.

It is an axiom of Army Co-operation that the Observer will observe and will not make deductions. One will therefore make a few observations and leave the deductions to the Editor.

First and foremost there are obviously not enough Staff Officers in the R.A.F.—at least there are not enough officers with Staff training on the Staff. For ordinary routine there may be enough, but for occasions like exercising the Air Defences of Great Britain their numbers are hopelessly inadequate. It may be possible for a few days to work a Staff Officer twenty-four hours a day but it does not increase his efficiency. And in time of war it would seriously impair the efficiency of the whole Force.

The same applies more or less to the administrative officers in the Squadrons. The paper work of a Unit is appalling. There must be twenty or thirty forms to fill in to-day where there was one or none in 1918.

At three R.A.F. stations visited by the Press during the period of the exercises, the Officer in charge of the party asked for a shorthand writer. There were no shorthand writers on the strength of these Stations. It seems that from the point of view of the saving of time and labour there should be a shorthand writer on the strength of every Unit.

The need for a bigger Air Force has never been shown more forcibly than during the A.D.G.B. exercises. The responsibility for the defence of this country has been placed in the hands of the Royal Air Force. They have built the foundations of a defensive system on sound and elastic principles. There is nothing wrong with the R.A.F. except its size.

If this country is in danger of air attack in time of war, we must multiply our present Air Force by ten and then some. While money is poured out on all sorts and conditions of extravagant uselessness like Peace Conferences, the R.A.F., in defence of the country, is dependent on a handful of territorials and unpaid Special Constables for its ground organisation and a hopelessly inadequate number of machines and personnel for its own work. The lesson of the exercises seems to be :—" Give the R.A.F. all the money they want and leave it to them."

LESSONS OF THE AIR MANŒUVRES.

[By W. H. Sayers.]

The recent Air Exercises designed to test the present organisation of the London defences against enemy bombing raids were necessarily based on assumptions as to the probable strategy and tactics which would be adopted by an enemy Power which set out to bomb London.

History shows fairly conclusively that war rarely takes the course predicted for it beforehand, and there is therefore always some danger in drawing hard and fast conclusions from the results of any mock campaign of this description as to the value of particular methods of operation, or items of military equipment, because these values may be radically changed by a change of conditions.

It is however reasonable to draw a certain number of conclusions from the exercises, more particularly as to the merits of certain existing types of British military aircraft for the uses to which they were put in these particular manœuvres.

The first of these relate to the value of the large, slow night-bomber for night attacks on a well-defended position.

Whenever the fighter squadrons were able to find them, these machines were a very easy prey for the defence force. The organisation for locating attacking machines was effective, and the fighter squadrons had ample time to get up and intercept them, given reasonably clear weather.

Under the weather conditions which obtained during the greater part of the operations, they had however a fair chance of getting through, by using the clouds as a screen both from the searchlights and the defending aircraft.

This confirms the opinion often expressed in this paper that this type of machine has very few merits as a weapon for use against a reasonably well equipped enemy. They can be used with reasonable chances of success only under weather conditions which handicap both attack and defence, but happen to handicap the defence the more heavily of the two.

A second conclusion, which seems fairly well established, is that our present type of fighter, used as it is proposed to use it to intercept attacking bombers, although quite a good weapon against raids by slow, heavy machines, has little value as a defence against raids by high-speed bombers.

The defending fighters found that they could never catch the raiding Foxes. With something less than 20 minutes between the moment when the raiders cross the coast and their arrival over London they had simply not the time to climb to a superior height and get to a position for attacking on a dive.

And even when they had time to carry out this manœuvre, the presence of clouds at a relatively low level made it impossible, for the fighter in the clouds would never see the enemy.

The whole theory of the high-altitude fighter—that victory should fall to the craft that can keep above its enemy—is an attractive one, and has its elements of truth. But it neglects the fact that to attack the fighter must see its victim.

If there is a layer of thick clouds at any height of from 5,000 to 15,000 ft. above the surface, the attacking force has only to fly just about at the bottom of the cloud layer to keep the defence force from taking a position above them.

Under such conditions superior speed on the level alone will enable the defence to engage with certainty, and maintain touch once it is attained. This superiority in speed our present single-seaters do not possess.

Fighters which can attain extreme altitudes, at the sacrifice of speed low down, are essential both for Home Defence and for other military purposes. Those now in service have not a sufficient advantage in climb to enable them, in the very short time that alone may often be available, both to get up to, and to locate, a modern high-altitude bomber that has spent an hour or so climbing before it reaches our coast.

And their speed at heights of below 15,000 ft. is too low to allow them to overtake such a machine as the Fox or the Horsley at moderate heights.

As things are at present we have no effective defence against fast bombers flying at moderate heights with heavy clouds just above them and with relatively poor visibility below them.

We need for this work machines at least 25—preferably more—m.p.h. faster than any bomber now in sight. This means at least 185 m.p.h. at 5,000 ft. We have at present nothing like this class.

We need also high-altitude fighters with a much higher speed at 15,000 ft. and over than anything we now have.

It may also be suggested that for defence against night raids a relatively large machine—with a multiplicity of guns—capable of patrolling the air for long periods—say six hours at a time—might have its advantages. The fighter squadrons—with say 30 minutes to get off the ground, climb to operating height, find the enemy and engage him—have a very poor chance of ever seeing him if weather conditions favour the raid, and at best can only engage him close enough to his target to be unpleasant for that target.

The long-endurance patrol can keep the air at a reasonable distance from that objective, and can be more or less on the spot when the raid reaches our coast.

THE FLIGHT TOWARDS AUSTRALIA.

Mr. Dennis Rooke, who is attempting to fly home to Australia on a D.H. Moth (A.D.C. Cirrus engine) has met with misfortune.

He had been held up by bad weather near Gaya, Bahir, for nearly a fortnight and on resuming his flight, he hit a tree when taking off for Calcutta. The machine was damaged and Mr. Rooke, although not seriously hurt, was taken to hospital in an unconscious condition.

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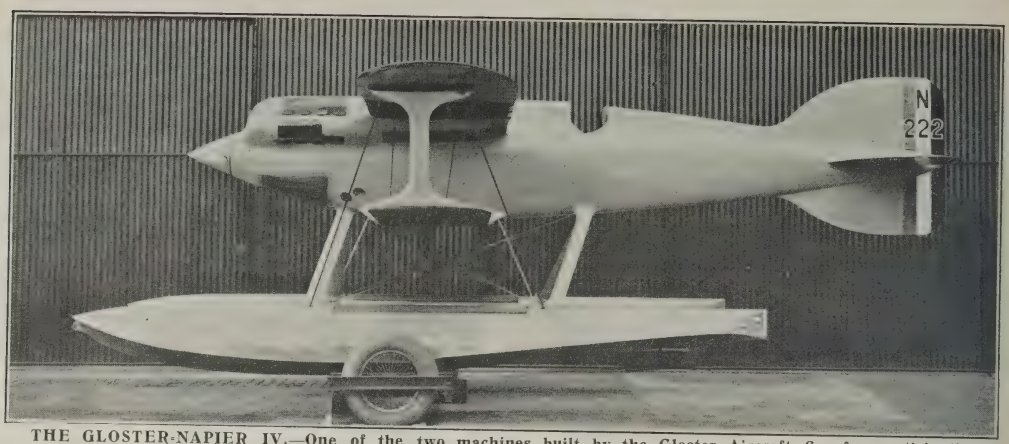
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THE GLOSTER-NAPIER IV.—One of the two machines built by the Gloster Aircraft Co. for participation in the Schneider Trophy Competition.

THE SCHNEIDER CHALLENGERS.

On Tuesday, Aug. 9, while this issue of THE AEROPLANE was going to Press, representatives of various newspapers have been paying a visit to Calshot at the invitation of the Air Ministry to see the Supermarine and Gloster seaplanes which have been prepared for the Schneider Trophy Contest.

These machines, as already notified in THE AEROPLANE, have been committed to the care of what is known as "The High Speed Flight," which was originally stationed at Felixstowe. The reason for sending the High Speed Flight to Felixstowe was that that station is known officially as the Marine Aircraft Experimental Establishment.

Anybody who had thought over the matter for a few minutes would have known that the open North Sea is about the worst possible place on which to test racing machines, apart from the fact that Felixstowe is the furthest possible seaplane station from Gloucester, Rochester and Southampton, at which towns the Schneider challengers were being built.

A few weeks ago some superior intelligence at the Air Ministry conceived the idea of sending the High Speed Flight to Calshot. This, of course, suited the Supermarine people admirably and was at any rate handier for the Gloster people than Felixstowe. So the two Gloster IVs (Napier Lions) and two Supermarine S.5s (Napier Lions) have been duly delivered to Calshot.

The Crusader, with Bristol Mercury engine, the product of Lt.-Col. Bristow, designed by Mr. Carter, and built by Short Brothers at Rochester, had, however, already been sent to Felixstowe before the High Speed Flight was removed. So one gathers that to avoid taking it to pieces and transporting it the Crusader is to remain at Felixstowe, where it is to have a Press View of its own on Thursday of this week.

Rumour says that the High Speed Flight was at first by no means a happy ship. One is writing this deliberately before going to Calshot and without having met any of the members of the High Speed Flight, since it acquired its machines,—so nobody can be accused of telling tales out of school. But now all is said to be well.

The original grievance seems to have been that an officer was put in command of the flight who, though he had been quite a competent seaplane pilot, had for a considerable period been kept on Staff work, and in any case had not had anything to do with high speed machines. There is naturally a considerable difference between flying a purely experimental speed machine in which everything from the airscrew to the floats is an unknown quantity, so that it can only be properly tested under certain conditions, and flying a machine whose peculiarities everybody knows, so that it can be taken out and flown just whenever the Commanding Officer so orders.

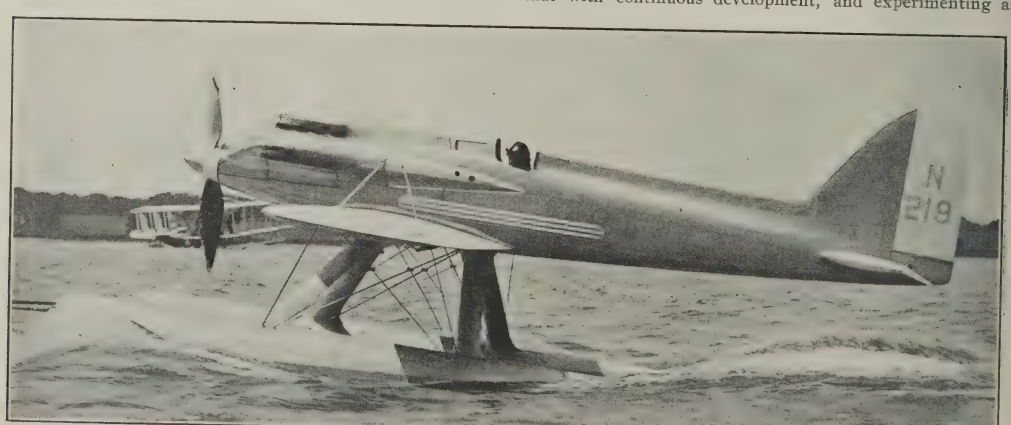
One gathers that there has also been a certain amount of unpleasantness about who is to fly which machine on the day and who is to be considered a reserve pilot. One hopes that all these differences and difficulties have been overcome.

Nothing definite can be published about the performances or tests of the machines. A great deal of very interesting work has been done in the testing of different types of airscrews at Felixstowe on the Gloster III, which has been used as what the Americans call a "dog ship," that is one on which everybody has been allowed to practise, as well as on the first of the Gloster IVs, which was flying at Felixstowe for some time.

Rumour has it that on a straight run adequately timed the Supermarine S.5 has already beaten the World's Speed Record for land machines. If so, we seem to have quite a good chance of bringing the Cup to this country.

The Napier engine which is used in the Supermarines and the Glosters deserves special mention. Outwardly the Napier racing engine is much the same as the engine which has done such good service in the Air Force for many years past. That is to say, it is a twelve-cylinder engine of the "Broad Arrow" or W type with four cylinders in each block. But whereas the standard engine gives a steady 450 h.p. the racing engine is boosted to give a great deal more.

The Napier racing engine in the 1925 Schneider machines developed 700 h.p. Therefore it is fairly safe to assume that with continuous development, and experimenting and



THE SUPERMARINE-NAPIER S.5.—One of the three machines of this type which are going to Venice to compete for the Schneider Marine Trophy.

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testing, the 1927 Napier must be giving somewhere in the direction of 900 to 1,000 h.p.

One outward difference in the racing engine is that the covers of the top of the cylinder blocks have been so designed as to fit in with the cowling instead of the cowling going over the top of them. This, and other alterations in design, have considerably reduced the frontal area of the racing engine as compared with the standard engine.

One point which may be mentioned about this engine is that it has a special reduction gear giving a much bigger difference between airscrew speed and engine speed than is given in the standard engine. This permits the use of an airscrew of bigger diameter and pitch, and therefore higher efficiency, than was possible with the standard gear.

There is interest in noting that up to the present all speed records, whether made in America, Italy or France, have been made with water-cooled engines. And such British speed records as there are also stand to the credit of water-cooled engines. Further it is interesting to record that the only British engine which so far has won the Schneider Trophy, namely in 1922, was a Napier.

Assuming, as is only fair, that the Napier racing engine is as reliable as the standard Napier as used in our big air-liners and on our R.A.F. machines which have toured the World by land and sea, the pilots of the Supermarines and Glosters need have little anxiety about the reliability of their engines.

The S.5. seaplanes have been designed by Mr. R. J. Mitchell, the firm's Chief Engineer. In connection with the design and construction of the machines the Supermarine firm states that very many thanks are due to the valuable research work and co-operation of the Technical Officers of the Air Ministry, The Royal Aircraft Establishment at Farnborough, and the National Physical Laboratory, Teddington.

The S.5. is a low-winged twin-float monoplane, and is a development of the Supermarine S.4. which beat the World's Speed Record for Seaplanes in 1925, and still holds the British Speed record for both land and seaplanes.

It is worthy of note that the Supermarine-Napier S.4. was the first float monoplane to be used in the Schneider Contest since the very early days of flying, and that after the S.4. was produced and performed so well, this type was taken up by the Italians last year and again this year.

The S.5. has a number of novel features, some of which are as follows :—

All the fuel is carried in the starboard float. The effect of this is partially to balance the engine-torque and make the machine more pleasant to fly. The fuel is carried to the engine by means of an engine-driven pump. The fuel-tank is constructed as a section of the float.

The wing surface radiators are an entirely new development and are a definite advance on anything previously used. They cool the engine without adding any resistance whatever to the machine, having a perfectly flat outer surface.

The fuselage is entirely of metal, the skin taking practically all the stresses. The engine mounting consists of a cantilever extension to the fuselage, the skin of the mounting taking all engine loads.

The floats are of duralumin, anodically treated to resist sea-water corrosion.

The wings are of wood and are covered with special laminated wood underneath the radiators.

The oil is cooled by passing it along both sides of the fuselage in contact with the skin through specially constructed oil coolers.

The airscrews have been designed and manufactured by the Fairey Aviation Co., of Hayes, to whom thanks are due for their very valuable assistance.

The fuselage is probably smaller in cross-sectional area than any fuselage previously designed and the pilots have had to be specially fitted to the machine. The area of maximum section is only just over half that of the S.4. And, in fact, the cubic capacity of the fuselage is less than that of one float.

It has been found necessary to fit fresh-air ducts to clear the cockpit of exhaust fumes and hot air during flight.

The trials of the S.5. have been done at the R.A.F. Station, Calshot, and the Supermarine firm expresses special thanks to the C.O. and all officers and ranks at the Station for the very great assistance and support which have been given.

The Supermarine Aviation Works Ltd., will be represented in Italy by Commander James Bird, Chairman and Managing Director, Mr. R. J. Mitchell—Director and Chief Engineer, and the Supermarine Crew will consist of :—Messrs. A. Powell, B. Pickett, G. Broome, B. Tozer, G. Pearson, H. Grimes, B. B. Brown.

The machines will leave England in two consignments, one on or about Aug. 16, and the other on or about Aug. 26.

An Air Ministry Communiqué states that Great Britain will be represented in the contest for the Schneider Trophy at Venice "by three Royal Air Force high speed seaplanes manned by Royal Air Force pilots. Air Vice-Marshal F. R. Scarlett, C.B., D.S.O., Air Officer Commanding, Coastal Area, Royal Air Force, will be in command. Representatives of the Royal Aero Club will act in an advisory capacity."

There is room for any amount of discussion as to whether it is right for the Royal Air Force as such (a) to pay for the building of racing machines; (b) to supply pilots for racing machines; and (c) to pay for the expense of such racing.

We pride ourselves on being a nation of sportsmen, so one would have imagined that the kind of man who does not mind paying £20,000 for the off-chance of winning a classic horse race, or considerably more than that sum for the pleasure of sailing a perfectly useless yacht of the largest size at Cowes, might have put up the money instead of charging it all up to John Citizen.

Also there are the questions of whether ordinary Service pilots, even with very good records as pilots, can have quite the experience and skill of professional civilian pilots, and whether Service pilots in the pay of the Nation have any moral right to take the bread out of the mouth of poor professional pilots, especially in view of the fact that if a Service pilot does well in public competition he is almost sure to be bought out of the R.A.F. by some aircraft firm,—thus crowding still further an already overcrowded market and probably cutting the price of pilots at the same time.

One has no personal opinions on these subjects. They are merely mentioned because people are talking about them. If we win, the Air Ministry will be justified. And if we lose, *The Daily Mail* and *The Morning Post* will have some new bricks to throw at the Air Authorities.

There is plenty of matter for argument between now and the date of the Schneider Contest. One hopes that nobody will come to blows over it.—C. G. G.



THE AMERICAN CHALLENGER.—The biplane fitted with a 1,225 h.p. "X" type Packard engine which has been built for Lieut. A. L. Williams, U.S.N., by the Kirkham Products Co., of Long Island, N.Y., for participation in the Schneider Trophy Competition.



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The London Gazette.

Aug. 2.

General Duties Branch.—Air Vice-Marshal Sir I. L. B. Vesey, K.B.E., C.B., C.M.G., D.S.O. (Col., temp. Maj.-Gen., Army), is re-seconded for one year's duty with the R.A.F. (Aug. 1); Flt. Lt. H. C. Calvey is granted a perm. comn. in this rank (July 1).

The following Plt. Offs. are promoted to the rank of Flg. Off.:—W. A. Andrews, J. F. Lawn (Apr. 12); R. Benham, H. J. J. Mumford-Mathews (May 28); H. G. Wisher, P. de C. Festing-Smith, E. B. Webb (June 16); Flt. Lt. J. A. Glen, D.S.C., is placed on half-pay, Scale B, Aug. 6 to Dec. 31, 1927, inclusive; Plt. Off. D. H. A. C. D. Patton-Bethune takes rank and precedence as if his appointment as Plt. Off. bore date Jan. 16, 1927, immediately following Plt. Off. C. E. N. Turton on the gradation list; reduction takes effect from June 14, 1927; Flg. Off. E. V. Culverwell is transferred to the Reserve, Class A (Aug. 1); Flt. Lt. T. J. West, M.C., relinquishes his S.S. comn. on account of ill-health and is permitted to retain his rank (Apr. 19). (Substituted for notification in the *Gazette* of May 3, 1927.)

Accountant Branch.—The following Flg. Offs. are granted perm. comns. (Aug. 3):—D. F. A. Clarke; F. M. Hall.

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—B. F. Cox (July 18); G. H. Robins (July 19). The following Flg. Offs. are transferred from Class A to Class C:—F. E. Bridges (June 17); B. R. C. Coope (July 30). Flg. Off. R. J. Copley is transferred from Class B to Class C (July 30); Flg. Off. M. C. Kerr relinquishes his comn. on account of ill-health, and is permitted to retain his rank (Aug. 3). The notification in the *Gazette* of June 28, 1927, concerning Flt. Lt. T. J. West, M.C., is cancelled.

Medical Branch.—Sq. Ldr. F. C. Jobson relinquishes his comn. on completion of service (Aug. 1).

Appointments.

Week ending Aug. 9.

General Duties Branch.—Wing Commander G. C. St. P. de Dombasle, O.B.E., to be Inspector of Recruiting, 17/8.

Squadron Leaders G. F. Breese, D.S.C., to R.A.F. Depot, Uxbridge, 17/8. M. Henderson, D.S.O., to Air Ministry, Directorate of Organisation and Staff Duties, 20/8. C. R. Cox, A.F.C., to R.A.F. Depot, Uxbridge, 20/8. A. J. Butler, O.B.E., M.C., A.F.C., to R.A.F. Depot, Uxbridge, 8/8. M. B. Frew, D.S.O., M.C., A.F.C., to No. 1 F.T.S., Netheravon, 24/7.

Flight Lieutenants D. M. Fleming, to No. 30 Sqdn., 'Iraq, 9/7. E. D. Barnes, to Aircraft Depot, 'Iraq, 5/7. A. G. Bond, A.F.C., to Air Ministry, Deputy Directorate of Manning, 15/8. K. L. Harris, to R.A.F. Depot, Uxbridge, 15/8. S. B. Harris, D.F.C., A.F.C., to H.Q., Air Defence of Great Britain, Uxbridge, 10/8.

Flying Officers L. H. Stewart, to R.A.F. Station, Hawkinge, 8/8. B. W. T. Hare, to No. 602 City of Glasgow (B) Sqdn., Renfrew, 5/8. C. H. Brill, to R.A.F. Depot, Uxbridge, 18/7. W. G. Wainwright Fahey, to R.A.F. Depot, Uxbridge, 1/8.

Pilot Officers D. K. Hewison, to No. 45 Sqdn., Egypt, 14/7. G. Stevinson, to No. 17 Sqdn., Upavon, 8/8. A. C. Pearson, to No. 2 F.T.S., Digby, on appointment to a S.S. Comn., 1/8.

Medical Branch.—Group Captain C. E. C. Stanford, D.S.O., M.B., B.Sc., to H.Q., Coastal Area, 16/8.

Wing Commander H. M. S. Turner, M.B.E., D.T.M. and H.F.R.S. (E), to H.Q., Fighting Area, Uxbridge, 22/8.

Squadron Leaders T. J. Kelly, M.C., M.B., B.A., to H.Q., Inland Area, Stanmore, 24/8. V. R. Smith, to No. 5 F.T.S., Scaland, 5/9. E. N. H. Gray, D.P.H., to Home Aircraft Depot, Henlow, 15/8.

Flight Lieutenant C. S. de Segundo, O.B.E., V.D., M.B., B.S., to Inspector of Recruiting, on appointment to a Temp. Comn., 25/7.

Flying Officers E. P. Carroll, to R.A.F. Station, Worthy Down, 2/8. G. W. McAleer, M.B., to R.A.F. Depot, Uxbridge, 2/8. F. F. Anslow, to R.A.F. Depot, Uxbridge, 8/8.

Fatal Accident.

A verdict of Accidental Death was returned at the inquest held on Aug. 2 on Flg. Off. A. G. Boon and L.-AC. S. M. Vincent, of No. 13 Army Co-operation Squadron, who were killed at Farnborough on Monday, Aug. 1. Evidence showed that six machines of No. 13 Squadron were flying from Andover to Manston and decided to land at Farnborough because of rain and bad visibility. Five of the machines landed safely, but Flg. Off. Boon's machine, which he himself had flown for 116 hours, got into a spin and crashed.

Flg. Off. F. S. Hodder, who had himself flown the machine and was in the formation at the time of the accident, said that probably Flg. Off. Boon stalled the machine on the turn.

Auxiliaries in Training.

On Aug. 6 the 600 (City of London) and 601 (County of London) Auxiliary (Bombing) Squadrons flew from Hendon to Lympne for their annual fortnight's training.

No. 600 (City of London) Squadron is commanded by Sq. Ldr. the Rt. Hon. F. E. Guest, P.C., C.B.E., D.S.O., M.P., and No. 601 (County of London) Squadron, by Sq. Ldr. the Lord Edward Grosvenor.

The Far East Attempt.

On Aug. 2, shortly after midday, Flt. Lt. C. R. Carr with Flg. Off. E. C. Dearth as navigator left Cranwell in a third attempt to fly to India. They were reported as crossing the Belgian coast between 14.00 and 15.00 hours. They passed over Sommerberg in Austria about 20.00 hours and came down in the Danube shortly afterwards.

The machine was flying over broken and heavily wooded country when the engine failed, and the only possible alighting place was the river itself. Flt. Lt. Carr was somewhat bruised but unfortunately Mr. Dearth broke some ribs and according to a report from Linz, published in *The Manchester Guardian*, he was carried to the local hotel at a place called Aschach, where the doctor reported that he seemed to have injured a lung and was spitting blood.

The latest reports indicate that he is making an excellent recovery, and is able to smoke and talk.

Few people knew that the third attempt was to start on Aug. 2. But it was not deliberately kept dark by the Air Ministry. The Air Force merely avoided publicity.

Everybody will sympathise with Mr. Carr in his third stroke of bad luck. There is no need to be disheartened. Nobody knows precisely how many failures the French had



CO-OPERATION.—The third batch of the members of the Cambridge University Air Squadron under training at the School of Army Co-Operation, R.A.F., Old Sarum, on the occasion of the visit of the Chief of the Air Staff. Beginning with the third figure on the left, those in the front row are:—Flt. Lt. T. S. Bruce, M.C. (Chief Flying Instructor, C.U. Air Squadron); Col. the Hon. M. C. A. Drummond, C.M.G., D.S.O. (Deputy Director of Staff Duties, Air Ministry); Flt. Lt. R. V. Goddard (Instructor, C.U. Air Squadron); Marshal of the Royal Air Force Sir Hugh Trenchard, Bt., G.C.B., D.S.O. (Chief of the Air Staff); Wing Cdr. J. B. Bowen, O.B.E. (Chief Instructor, C.U. Air Squadron); and Air Vice-Marshal Sir Ivo Vesey, K.B.E., C.B., C.M.G., D.S.O. (Director of Organisation and Staff Duties, Air Ministry).

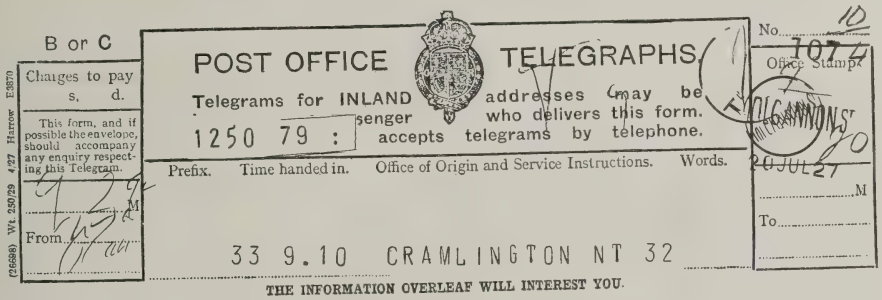
Members of the Cambridge University Air Squadron have been attached in three batches during a period of six weeks to the School of Army Co-Operation, each batch attending for a fortnight. During this time about 430 hours' flying has been done. Many of the members take commissions in the Reserve of Air Force Officers and others are taking up the technical side of aeronautics professionally. The Squadron has existed for two years, in which time seventy undergraduates have been given technical and/or flying training.

Mrs. ELLIOTT LYNN

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before any of their great long distance flights succeeded. But readers of The Aeroplane will remember that quite a number of the French long-distance pilots made very gallant attempts on the record without success.

The one amusing thing about this sad affair is an article from "An Aviation Correspondent" in *The Manchester Guardian*, who says :—

Now that a second Hawker Horsley aeroplane has been destroyed I hope the Air Ministry will give up any more attempts to fly non-stop to India. Taking into account the making and fittings of extra petrol tanks and numerous other special fittings, between them they must have cost the country nearly £20,000, with no corresponding benefit whatever.

If the attempt to fly to India were successful it would prove nothing except that more or less by good luck a particular engine managed to keep running for two days; while if it fails, as has now happened twice, it gives an entirely wrong impression that British air engines are less reliable than foreign ones, which is very far from being the truth. Altogether the machine is so altered and overloaded that it is purely a freak, and there is no relation whatever to the normal Service machine of the same type.

Which is exactly what might be said of Lindbergh's machine, or Chamberlin's or any record-breaker.

Considering that all the "air experts" of the daily papers had been bleating for months before Mr. Carr's first attempt because the Air Ministry did not go to all the trouble and expense of making attempts on all the World's Records, and lamenting that France and America held all the records, and abusing the Air Ministry because England does not hold a single record, it is really funny to see a daily paper solemnly advising the Air Ministry to give up.

As to the cause of failure, *The Times* correspondent in Vienna distinctly states that Mr. Carr told him that before he came down "there was no water in the radiator, and that the lubricating oil was beginning to boil." The fact that the day of the flight was the hottest reported in Austria for years may have had something to do with the overheating. But even the hottest day in Austria could scarcely be as hot as an ordinarily hot day in the Persian Gulf.

It will be remembered that boiling oil caused the second attempt to end at Martlesham. The article by Capt. Sayers on engine installation in last week's issue of The Aeroplane will help readers to understand that such troubles may not be directly the fault of either the engine or the machine.

The mere fact that such a thing should happen shows precisely the value of such a flight. Whatever the defect may have been it would certainly not have been discovered in ordinary Service practice flying, and it might have been left undiscovered till this particular type of machine was required for very urgent service in the East. And then through this defect we might have lost a number of valuable men and machines, without counting the ill effect on the general operations of the war which would be caused by such loss. Therefore, on this score alone, whatever the cost of these attempts has been to the country is thoroughly justified.—C. G. G.

REAL DAYLIGHT ENTERPRISE.

The British Guiana Government has decided to pay an annual subsidy of £3,300 over a period of three years, to the British Guiana Air Transport Co., Ltd., an offshoot of the Real Daylight Balata Syndicate, for the use of the company's Fairey IIID seaplane for 160 hours each year, with a view to the encouragement and promotion of aviation in the Colony.

Readers will remember that Mr. Hodgkins, of the Real Daylight Balata Syndicate, bought a Fairey IIID ambulance seaplane in 1925 for use between up-country plantations and Georgetown for the transport of fever patients, doctors, medicines and other urgent supplies.

This machine has helped to save the lives of several persons who have been evacuated to hospital with the minimum loss of time, and it has been used several times for official purposes by the Government.

THE NEW DURATION RECORDS.

On Wednesday, Aug. 3, a Junkers type W.33, piloted by Herren Risztics and Edzard, left Dessau at 05.49 hours, and landed again on Friday, Aug. 5, at 10.13 hours, after raising the World's Duration Record to 52 hrs. 23 mins., and the Record for Distance in a closed circuit to 4,627 km. (2,879 miles approximately).

The previous Duration Record was 51 hrs. 11 mins., held by Chamberlin and Acosta on the Bellanca monoplane, and the previous Distance Record (over a closed circuit), 4,400 km. (2,730 miles about), by Drouhin on a Farman biplane.

The distance for record purposes was measured over the route Dessau—Leipzig and return. Owing to fog during both nights, the machine spent much time circling over Dessau, during which period no distance was officially added to the flight. The actual air distance covered in the flight is estimated to have been nearly 7,000 km. (4,360 miles).

A COPENHAGEN ACCIDENT.

Herr Bäumer, the famous German war-pilot, Knight of the Order "Pour la Mérite," the highest honour obtainable in war, was killed at Copenhagen on July 15, as the result of an accident to the new Rohrbach Rofix, a single-seat fighter designed for the Turkish Government.

The Rohrbach firm issued, on July 16, its own account of the accident, which reads as follows :—

Several prominent air-pilots of the old army, such as Udet and von Köppen, undertook lately in the Rohrbach Works at Copenhague test flights with the new single-seater fighter Rohrbach-Rofix, designed for the Turkish Government. All these gentlemen were after the flights very much satisfied with the flying qualities of the machine and emphasised that this single-seated fighter could be easily and safely flown under all conditions by any pilot.

The well-known German air-pilot, Bäumer, Knight of the Order "Pour le Mérite," corroborated the opinion after having performed three test flights and pointed out that the machine would nearly automatically pass from spinnings over into the horizontal position and could be flown by every qualified pilot.

Mr. Bäumer undertook yesterday afternoon a fourth flight intending (according to a statement to one of his friends) to break the altitude record. In an altitude of 5,000 m., however, he broke off the flight, proceeded to rollings and passed over at last into spinnings.

In an altitude of 3,000 m. the machine came again into the horizontal position, flew on and proceeded again to spinnings which according to Mr. Bäumer's previous statement were to be extended over 1,000 m. Curiously enough the machine did not regain the equipoise though in an altitude of 800 m. the engine was brought on full load several times for about a second.

Bäumer precipitated with his craft into the Sound and could be recovered not before to-day in the first morning hours. The body which was unbuckled and partly mutilated, was laid out in a room of the Rohrbach Works.

The cause of the catastrophe can only be guessed, but it is probable that the 35 or more revolutions of the airplane made Bäumer nervous so that he did not bring the engine on full load sufficient enough for bringing the flying machine again into the horizontal position. This assumption can be gathered from the trials made at 800 m.

One can hardly imagine a pilot of Herr Bäumer's experience and proved bravery becoming nervous, and one imagines that the brother-officers of the deceased officer will feel considerable indignation at the suggestion that he could have lost his nerve at such a critical moment.

Judging by the photographs of the machine, the explanation seems more likely to be that the machine got into an inverted spin from which it could not be got under control again. The general lines of the machine are much like the Wibault, which suffered from this peculiarity until certain alterations were made in the design by Vickers Ltd.



THE ROHRBACH ROFIX.—A single-seat fighter with a 460/600 h.p. B.M.W.VI engine designed and built by the Rohrbach Company for the Turkish Government. It was on a machine of this type that Herr Bäumer was killed on July 15, as mentioned above.

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THE FLYING CLUBS.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending July 30.

Flying time 33 hr. 10 min., made up of 15 hr. 20 min. dual, 9 hr. 10 min. solo, 7 hr. 20 min. joy-ride, and 1 hr. 20 min. test flights.

Instruction with Messrs. Brown and Cantrill.—Messrs. Heys, Toms, Stonex, Fisher, Anderson, Riley, Davidson, Allott, Dobson, Rodman, Meades, Hartley, Caldecott, Hollindrake, Ward, Watson, Gattrell, Parker, Doherty, and Miss Baerlein. *Solo.*—Messrs. Rowley, Leeming, Costa, Goodfellow, Agar, Davidson, Nelson, Dobson, Caldecott, Toms. Williams, Ward, Anderson, Hardy, Gattrell, Scholes, Miss Baerlein. *Joy-rides.*—Messrs. Jeffrey, Scholfield, Bennion, Mills, J. P. and E. Pringle, Rigby, Crossland, Bowers, Adams, Bandelia, Vianna, Ogden, Allott, Heys, Arty, Brito, Toms, Caldecott, Mrs. Worthington, Mrs. Robinson, Mrs. Rigby, and the Misses Thomas, Hollindrake, Marshall, Taylor, Wooton, and Worthington.

We have still only two serviceable machines, but the week has nevertheless proved a record one for first solos, of which there have been no less than five—Miss Baerlein and Messrs. Davidson, Caldecott, Toms and Anderson. *And* there are still two serviceable machines.

Our Avian, G-EBRR, was withdrawn from the King's Cup on publication of the handicaps. Personally one is all in favour of a joke, but owing to the cost of insurance, coupled with the fact that the machine would have to be off Club work for several days, it was felt that this particular joke was one in which the Club really couldn't afford to share.

Report for week ending Aug. 6.

Total flying time 45 hr. 5 min., made up as follows:—Tests 1 hr. 25 min. Joy-rides 5 hr. 45 min. Dual 15 hr. 40 min. Solo 22 hr. 15 min.

Dual with Mr. Brown.—Messrs. Jowett, Anderson, Fisher, Stonex, Meades, Browning, Wilkinson, Forshaw, Watson, Musgrave, Allott, Williams, Shires, Harber, Gattrell, Hartley, Kinsley, Wade, Agar (C.), Miss Baerlein. *Dual with Mr. Cantrill.*—Messrs. Fisher, Stonex, Allott, Harber, Meades, Heyes, Wade. *Joy-rides.—With Mr. Brown*—Messrs. Treadgold, Redfern, Fisher, Miss Mills, Messrs. Dyson (D. F.), Hubbard, Bromost, Kershaw, Mills. *With Mr. Twemlow*—Mr. Ridley. *With Mr. Cantrill*—Mrs. Ainsworth, Mr. Mills. *With Mr. Goodfellow*—Mr. Mills. *With Mr. Scholes*—Miss Jackson, Mr. Brook. *With Mr. Costa*—Mr. Brito. *With Mr. Leeming*—Mr. Pilling. *Solos.*—Messrs. Anderson, Goodfellow, Caldecott, Twemlow, Ward, Musgrave, Miss Baerlein, Messrs. Torres, Dobson, Shires, Michelson, Costa, Rowley, Hardy, Meades, Agar, Crossthwaite, Davison, Williams, Chapman, Gattrell, Nelson, Leeming, Harber.

For part of the week only one machine was serviceable. The week started with RR and MQ in use; on Thursday MQ became unserviceable and by Saturday LV was brought into use to replace MQ, a splendid piece of work on which the ground staff deserve congratulations.

There have been three first solos this week—Messrs. Meades, Harber and Shires. Four pupils have passed their "A" Licence tests. Extensive work will have to be done on MQ and this will be out of service for some time, OK is also undergoing complete overhaul and will not be flying for a week or two. Numerous cross-country trips were made, notably by Messrs. Anderson and Dobson—the former visiting Chorlton and the latter Baguley (unintentionally)

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Sunday, July 31.

Flying time 50 hr. 20 min.

Instruction.—Messrs. McDougall, Robertson, Maxwell, Heaton, Irving, Lawson, De Pledge, Pargeter, Rasmussen, Middleton, Davey, Hayton, Kennedy, Thirlwell, Mrs. Heslop and Miss Leathart (the latter on advanced dual). *Solos and with passengers.*—Messrs. D. Wilson, Maxwell, R. N. Thompson, C. Thompson, H. Ellis, Robertson, Turnbull, Shaw, Davey, A. Bell, Rasmussen, McDougall, Kennedy, Bainbridge, Elmes, Thirlwell, Pargeter, Mrs. Heslop, Miss Leathart and Dr. Dixon. *Passengers.*—With Mr. C. Thompson—Mrs. Fairless, Mrs. Heslop, Miss Laidlow, Miss Matthews and Mr. London. With Mr. R. N. Thompson—Miss Cochrane, and the Masters Edmundson. With Mr. Mathews—Mr. Percy. With Dr. Dixon—Mr. Munn. With Mr. Parkinson—Mr. Bulmer, Mr. and Mrs. Stephenson. With Mr. A. Bell—Miss Cleaver, Miss Bulmer, Mr. Murray and Mr. J. Bell.

The following members were "launched" and all put up very good performances:—Mr. Robertson, Mr. McDougall and Mr. Rasmussen.

Two Moths were in operation throughout the week and in spite of bad weather on several days two records for the Club were created,—the largest amount of flying done during one week and also the greatest single day. On Sunday, the 31st, a total of 18 hr. 45 min. was completed.

It is felt that, although the excellent record attained by the London Aeroplane Club has yet to be reached, the above total is exceedingly satisfactory with a fleet of only two machines.

The lady members and wives of members (with families) were entertained to a picnic and tea by Mrs. Irving and the aerodrome had a strange appearance, owing to the absence of the fair sex, but one is led to wonder how much of the success of the day could be attributed to the fact that the ladies were absent. However, the male members enjoyed themselves, and from all accounts the ladies did also, so everyone is pleased.

The Yorkshire Aeroplane Club.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]

Report for week ending July 30.

Flying time 34 hr. 55 min. *Dual with Mr. Beck* 20 hr. 35 min. *Dual with Mr. Coles* 25 min. *Solos* 13 hr. 55 min.

Instruction with Mr. Beck.—Miss Woodhead, Miss Watson, Messrs. Hirst, Ling, Brown, Crouther, Milburn, Hiley, Ellison, Tenbos, Micklethwait, Leetham, Birch, Lax, Hy. Leetham, Wood, Brackenbury, Ambler, Thomson. *Dual with Mr. Coles.*—Mr. Fritton. *Solo.*—Capt. Wilburn, Messrs. Thomson, Brackenbury, Coles, Wilson, Leach, Clapham, Lax, Mann, Birch, Wood.

During the week two fair Americans, Miss Ashmore and Miss Nicholls, landed on a tour round England, and being used to larger machines were very much intrigued by a "Mawth." Miss Nicholls is the only flying-boat pilot of her sex and we wish she had brought it with her as we *have*, on occasion, seen more water than land where the aerodrome should be.

Report for week ending Aug. 6.

The total time flown during the week amounted to 40 hr. 20 min., made up as follows:—Dual instruction with Mr. Beck 19 hr. 55 min., dual with Mr. Coles 3 hr., solo 10 hr. 25 min., cross-country 6 hr. 50 min., and tests 10 min.

Dual with Mr. Beck.—General Atcherley, Miss Woodhead, Miss Watson, Messrs. Hirst, Crouther, Lax, M. B. and R. K., Ellison, Tenbos, Thomson, Ambler, Lister, Coles, Leetham, Dujardin, Fitton, Milestones, Micklethwait, Milburn and Humphries. *Dual with Mr. Coles.*—Miss Woodhead, Miss Watson, Messrs. Dujardin, Stell, Swift and Crouther. *Solo.*—Miss Woodhead, General Atcherley, Messrs. D. and R. Mann, Wilson, Fielden, Wood, Lax, M. B., Beck, Thomson, Brackenbury, Clapham, Coles, Norway and Milburn.

At last! We have now got a lady member who has accomplished the feat of exploring the ether by herself and returning to the aerodrome with the kite intact: in a word, Miss Woodhead went solo on Monday and put up a splendid performance; of course there were several applicants to accompany the lady, but this was not allowed, as the Bluebird has not yet arrived. Our flying hours were pushed up to over 40 this week, and several ladies took joy-rides. We expect the hours to increase considerably even above last week's figure when the new machine can be used.

Mr. Brackenbury succeeded in flying backwards during the week, but only for a limited distance as he soon regained control. Mr. R. H. Leetham expected to go solo on Saturday, but decided otherwise, as the thirsty crowd of spectators was too large.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Reports for fortnight ending Aug. 1.

Flying time: For week ending July 23, 20 hr. 20 mins. For week ending Aug. 1, 21 hr. 30 min.

Instruction with Mr. Lines.—F. Gough, H. Mack, E. W. B. Scott, J. C. Cooper, F. Cooper, N. Lindley, H. Neave, R. F. Potter, F. Pank, H. Birchall, Capt. L. King, Capt. Ramsay, T. Whitlock, and Mrs. H. Carter. *Solos.*—Sq. Ldr. C. A. Rea, Capt. L. King, R. F. W. Moore, F. Gough and Capt. Ramsay. *Joy-rides.*—H. O. Bennett.

We are pleased to report that excellent progress is being made. Many more members are joining weekly and we have had the pleasure of seeing three more members go solo during the past week, foremost among whom is Mr. F. Gough, who, apart from being an active flying member of the Club, is now also a private owner of an aircraft. Capt. Ramsay also gave an excellent display as a soloist, and we hope to hear more of him later. Capt. L. King also began solo flying during the week. We are pleased to report also that "Flat Turn Tommy" has now made great forward strides and is on the eve of going solo.

The Bristol and Wessex Aeroplane Club.

[Hon. Sec.: Col. Flemming, Filton Aerodrome, Bristol.]

Report for week ending July 30.

Flying time 5 hr.

Dual with Mr. Bartlett.—Miss Honor Pitman, Messrs. Bolas, Hugh Clarke, Downs-Shaw, Hall, Hopper, Macauley, Robertson, Tiarks.

Mr. Bartlett took over our first training machine (Moth) at Stag Lane on Thursday and flew to Filton. Regular instruction began next morning. The Club is fortunate in starting with a fine hangar, also a Club room, lecture room, and Secretary's office. These are being rapidly fitted up with furniture by enthusiastic members.

We hope to take over the Brownie and Pixie presented to the Club, which machines will be available for solo flying by qualified pilots.

Report for week ending Aug. 6.

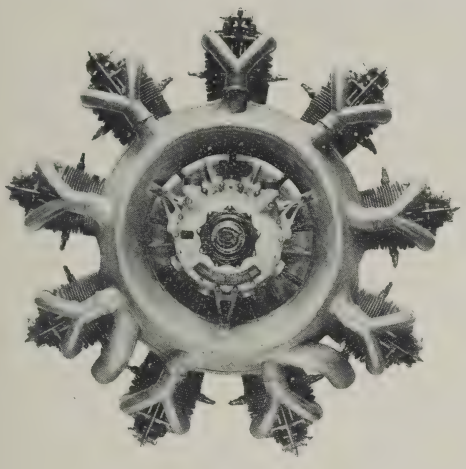
Total flying time 21 hr. 40 min.

Dual with Mr. Bartlett.—Miss H. Pitman, Miss O. Miles, Mrs. R. Stanton, Messrs. Hugh Clarke, R. S. Clarke, C. H. Brewer, Downs-Shaw, Ashley Hall, C. Macauley, E. Pitman, Shaw, Tratman. *Solo.*—Eric Hopper 1 hr. 25 min., C. F. Uwins 5 min. *Passengers flights with Mr. Bartlett.*—V. Denies 5 min., J. M. Paul 10 min. With Mr. Shaw—Miss S. Saunders 15 min., Mrs. Shaw 10 min.

The Club has been fortunate in obtaining Mr. A. W. Webb as Ground Engineer, who was Mr. W. L. Hope's Chief Mechanic for this year's King's Cup winner.

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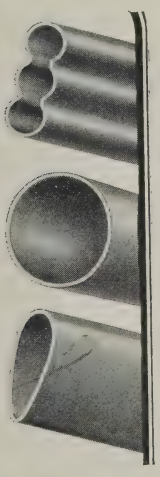
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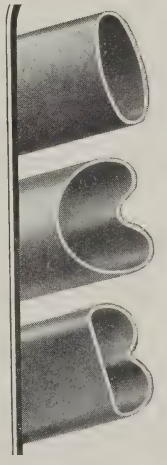
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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 28; Tuesday, 30; Wednesday, 28; Thursday, 26; Friday, 29; Saturday, 29; Sunday, 26

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Paris—London: Machines 30, passengers 188, freight 12 tons.

K.L.M.:

Amsterdam—Rotterdam—London: Machines 26, passengers 168, freight 3½ tons.

DEUTSCHE LUFTHANSA AG.:

Berlin—London: Machines 17, passengers 93.

SABENA:

Brussels—London: Machines 12, passengers 86.

PRIVATE:

Machines 3, passengers 4.

Total number of trips by British Machines, 79, carrying 713 passengers. Foreign Machines, 114, carrying 535 passengers.

COMPARATIVE FIGURES.

Week ending Aug. 7:

Machines, 193; Passengers, 1,248; Crews, 322; Total personnel, 1,570.

Corresponding week, 1926:

Machines, 192; Passengers, 1,220; Crews, 237; Total personnel, 1,457.

Corresponding week, 1925:

Machines, 169; Passengers, 941; Crews, 242; Total personnel, 1,183.

Corresponding week, 1924:

Machines, 181; Passengers, 930; Crews, 225; Total personnel, 1,155.

Corresponding week, 1923:

Machines, 146; Passengers, 682; Crews, 233; Total personnel, 915.

Corresponding week, 1922:

Machines, 209; Passengers, 734; Crews, 342; Total personnel, 1,076.

Corresponding week, 1921:

Machines, 155; Passengers, 462; Crews, 144; Total personnel, 606.

Corresponding week, 1920:

Machines, 115; Passengers, 240; Crews, 144; Total personnel, 384.

Corresponding week, 1919:

Machines, 1; Passengers, 0; Crew, 1; Total personnel, 1.

Croydon Notes.

Punch recently advised those who had £50 to spare for a holiday to try Deauville as a place for dispersing their spare cash within the shortest possible time.

If the experiment tried on Sunday by Imperial Airways leads to the expected development those so situated will be able to save about twenty hours on *Punch's* suggested time limit of a short week-end.

Two machines left Croydon on Sunday morning with passengers for this expensive resort. One flew to Hamble where the passengers were put in a car, taken to Woolston, embarked on the Supermarine Swan, which alighted off the beach at Deauville.

The other flew direct to Deauville and landed on a strip of the beach.

The Swan returned on Sunday evening, and the land machine on Monday morning.

It was found that the London—Southampton route, with its change of machines, would take at least two and a-half hours, and that the sea off Deauville could be quite unpleasant for alighting upon. The direct trip will take not more than two hours, and there is ample room at Deauville for an excellent aerodrome.

Negotiations are in progress between Imperial Airways and the municipal authorities at Deauville which will probably lead to the provision at that town of a properly equipped aerodrome, and it is hoped that next summer a regular service from Croydon to Deauville will run during the whole Deauville season

As it takes at least twelve hours to reach Deauville from London by surface methods, and as visitors to this spot are scarcely of the indigent type, this service should carry the great majority of English visitors to the town.

During the past week a new pilot—Mr. Wheeler—has been taking charge of Imperial machines on the regular Continental services. Mr. Wheeler is actually a very old pilot—as he was flying in the R.F.C. during the war, and flew to some extent for A.D.C. after the war.

He has been with Imperial Airways, since their origin, as a mechanic, has for some time been acting as second pilot on the Continental service, and has now entered the ranks of pilots unqualified.

It is to be expected that commercial aircraft operators should prefer to train their own pilots from selected members of their skilled ground staff, rather than to look to external sources for already trained men, and Mr. Wheeler may be looked on as the first example of this type of pilot in this country.

Recently there have been a number of cases of late arrivals of British machines caused by intermediate landings for replenishing fuel tanks. Nominally all Imperial machines have ample petrol capacity for their scheduled trips, but for some mysterious reason their engines appeared to have developed unusually heavy consumptions.

HANDLEY PAGE

SLOT AND AILERON CONTROL.

"The invention of the slot and aileron control represents the most successful attempt . . . . . to increase the efficiency of the aileron."

"The Spinning of Aeroplanes"
Bryant and Gates,
Aeronautical Research Committee.
Reports and Memoranda No. 1,001, p. 103.

HANDLEY PAGE, LTD.,
Cricklewood, N.W.2.

Careful investigation has shown that a relatively small increase in cruising speed very markedly increases the rate of consumption, and that a relatively short burst of well-opened throttle during any one trip is sufficient to account for the recorded cases of abnormal shortage of petrol.

Such cases can, it is believed, be entirely suppressed by strict attention to the cruising revolutions of all engines, and instructions to observe certain definite limits in this respect are to be enforced in future.

This is undoubtedly the correct way to tackle the immediate emergency, but a little larger tank capacity seems to be a better solution of the difficulty.—W. H. S.

A NEW LONDON—COLOGNE SERVICE.

Under an agreement recently concluded between the Luft-Hansa and the Koninklijke Luftvaart-Maatschappij, modifications in the time-tables of both services are to be made not later than Sept. 1, so that passengers by Luft-Hansa from Cologne to Rotterdam via Duisburg will be able to join a K.L.M. machine at Rotterdam to take them on to Croydon without delay.

According to *The Times* Luft-Hansa hope at some later date to operate a through service over this route, following the course of the Rhine from Cologne, and probably using sea-planes.

Though this route is somewhat longer than the route from London across Belgium to Cologne, the difference in distance is not great. The new route however will open up direct communication between the Duisburg district and London.

NEW COMPANY.

Fairey Aviation Company.

The Fairey Aviation Company Limited was registered as a "public" company on July 27, with a nominal capital of £100 in £1 shares. The objects are to adopt an agreement with the Fairey Aviation Co. Ltd. (incorporated in 1926) and its liquidator, and to carry on the business of manufacturers of and dealers in water and aeroplanes, and aerial conveyances and aircraft of all kinds, and the component parts thereof, including engines, builders of hangars, garages, sheds, aerodromes, etc. The minimum cash subscription is 7 shares.

The first directors (to number not less than 3 nor more than 7) are:—C. R. Fairey, Grove Cottage, Iver, Bucks, aeronautical engr. (ch.). F. G. T. Dawson, Manor House, Hamble, Hants, aeronautical engr. C. O. Crisp, 5, Lansdowne Road, Holland Park, W., solicitor. Lt.-Col. V. Nicholl, D.S.O., D.S.C., Mill House, Stoke Poges. M. E. A. Wright, 7, Briar Road, Kenton, Middlesex, engineer. The three first named are permanent.

Remuneration: £250 each per annum (chairman £300) free of income tax. Solicitors: Ashurst, Morris, Crisp and Co., 17, Throgmorton Avenue, E.C.2. The registered office is at Cranford Lane, Hayes, Middlesex.



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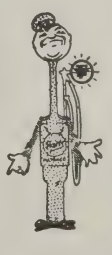
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PERSONAL NOTICES.

DEATHS.

BARNARD.—On July 28, 1927, while flying at Winterbourne, near Bristol, Capt. Franklyn Leslie Barnard, O.B.E., A.F.C., aged 30.

Mrs. Franklyn L. Barnard wishes to thank all her friends for their kind messages and beautiful flowers. She is sorry that she is unable to acknowledge them individually.

HAWKINS.—Suddenly, the result of the war, Geoffrey Herbert Algernon Hawkins (late Major, R.A.F.), husband of Violet Lilian Hawkins, and only son of Henry Herbert Hawkins, late of Gablenook, Didsbury, aged 34. Temporary address, 67, Norroy Road, London, S.W.15.

FORTHCOMING MARRIAGES.

BURROWS—TURNOCK.—The marriage arranged between Mr. Robert H. Burrows, A.F.C., M.A., son of Mr. Harry Burrows, and the late Mrs. Burrows, of Homewood, Stevenage, Herts, and Mira, daughter of Mr. and Mrs. Walter B. Turnock, of Danygraig, Port Talbot, will take place on Tuesday, Aug 16, at St. George's, Hanover Square.

BIRTHS.

BOLT.—An Aug. 1, 1927, at a nursing home, Crowborough, to Pauline Kipping (*née* Pearce), the wife of James Ed. Bolt (R.A.F.)—a son.

GOULD.—On Aug. 2, 1927, at Higherfield, Bude, to Barbara, wife of Sq. Ldr. L. T. N. Gould, M.C., R.A.F.—a son.

WHINNEY.—On Aug. 4, at Bromley, Rhodesia, to Edna and E. G. Whinney (late R.A.F.)—a son.

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THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Grey

Vol. XXXIII. No. 7 SIXPENCE WEEKLY.

Registered at the G.P.O. as a Newspaper.

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"THE SPIRIT OF THE TIME SHALL TEACH ME SPEED."
(Shakespeare—King John.)



THE SCHNEIDER TROPHY TEAM:—Left to right: Fl. Off. H. M. Schofield; Flt. Lt. O. E. Worsley; Flt. Lt. S. N. Webster, A.F.C.; Flt. Lt. Kinkead, D.S.O., D.S.C., D.F.C.; and the officer commanding the team, Sqdn. Ldr. L. H. Slatter, O.B.E., D.S.C., D.F.C., A.F.C.

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THE AEROPLANE

Incorporating
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VOL. XXXIII. No. 7.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 4[illegible]6.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months 32s.
Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8$.
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ON ANOTHER LESSON FROM AMERICA.

Everybody who is really concerned with or for the welfare of British Aviation, and particularly those who as members of the British Aircraft Industry have to make a living, and hope to make a fortune, out of selling aircraft, will do well to study carefully the article by Mr. Leonard Bridgman on the American National Air Tour, commonly called the Ford Tour, which is the leading feature of THE AEROPLANE this week.

Thanks to sundry kind friends in different parts of the United States, this article is illustrated with snapshots, taken in the course of the competition, of practically every type of aeroplane which took part in the Tour. And, by studying these photographs, in conjunction with the very valuable information which Mr. Bridgman has compiled (chiefly from America's leading aeronautical paper *Aviation*), readers can get a very good idea of what is being done in America to develop real air transport.

The National Air Tour is a remarkable institution. It was originated by Mr. Edsel Ford as a method of trying out various types of transport aeroplanes, and at the same time of interesting the American public in air transport. That is to say, it was an effort to make America commercially air-minded as distinct from concentrating its air-mindedness on Service affairs, as we are apt to do in this country. And there is no doubt that the Ford Tour has had very satisfactory results.

The difference between the American method and our method of creating air-mindedness is typical of the two Nations. When the Americans want anything they set about getting it by following one definite line of development. We, on the other hand, dash about in a haphazard kind of way, and, although we do discover a lot of interesting things and eventually arrive at something like good results, we waste an immense amount of time and money in doing it.

It is just the difference between what scientists call *ad hoc* research and what they call *basic* research. In *ad hoc* research you fix on one particular object and experiment until you get it. In *basic* research you fiddle round with all sorts of comic experiments, like dipping into a lucky bag, in the hopes that something valuable will turn up. Or, in other words, it is the difference between working for a living and gambling for it.

Our Foolish Way.

In this country we have done nothing since the Air Ministry Commercial Aeroplane Competition in 1920 to develop real commercial aeroplanes. How useful that Competition was is shown by the fact that the Handley Page W.8 which won the Competition in its class, is still, in one or other of its modified forms, one of the few types of British commercial aircraft in regular use. And there is no doubt that if we had had since then regular competitions for commercial aircraft we should by now have developed a commercial aeroplane as far ahead of everything else in the World as the de Havilland Hound and the Fairey IIIF., among Service two-seaters, and the Southampton and the Iris and the Valkerie and the Singapore among flying-boats, are ahead.

Unfortunately, outside of competitions for specific types of Service machines, our only competitions have been air races or flying competitions of sorts which have never been likely to produce anything of practical value.

We have had Light Aeroplane competitions in which the rules encouraged the production of machines of a perfectly useless type—witness the fact that the D.H. Moth, which is the World's one provedly marketable light aeroplane, was never even entered for our first Light Aeroplane competitions, because it did not come within the rules and regulations.

Our racing has been a joke, except when it has been a tragedy. What can anybody expect to develop from an event like the King's Cup Race of last year, when two such widely different machines as the Moth and the Vickers Vixen very nearly flew a dead-heat.

Still less are we likely to develop anything from short-distance racing which produces such a happening as at Bournemouth early this year when the pilot of the Vickers Vixen had to fly outside the course and disqualify himself because his only means of winning would have been to bore his way through a whole flock of small craft and blow them all over the sky.

A King's Cup Competition.

As Mr. Bridgman has pointed out at the end of his article on the Ford Tour, the King's Cup Race as at present organised, is merely silly. It does not tend in any way to develop any kind of aeroplane. Mr. Hope's well-deserved win was the result of faking up a standard Moth to beat the formula and then flying it with extraordinary skill. And the highest speed was done for the second year in succession by the Vickers Vixen, which is of a design several years old and is now quite slow according to improved ideas of high-speed machines.

Though in an ideal state there should be no relationship whatever between the governing body of the Sport of Flying and the representative Trade Organisation, there is, as a matter of fact, very close relationship between the Royal Aero Club and the Society of British Aircraft Constructors,—even to the extent of the Royal Aero Club being compelled to alter the rules of races and formulæ and such things under



THE STINSON MONOPLANE.—The winner of the Ford Tour. A five-seat commercial monoplane (Wright Whirlwind). A similar machine has been bought for the projected flight from London, Ont., to London, Eng.

threats from the Trade that there will be no entries for the competitions unless these things are altered to suit Trade requirements. Therefore we may as well recognise the fact that although pure sporting flying is in process of development, thanks to the flying clubs and the rapidly increasing number of private owners, competition flying is at present a Trade affair.

That being so, then let us make our one classic event of the year, the contest for the King's Cup, into something which will be really good for British Trade.

When His Majesty King George V was graciously pleased to recognise the existence of Civil Aviation by presenting the King's Cup to the Royal Aero Club, he intimated his wish that the Competition for the Cup should be such as would be calculated to improve the breed of British aircraft. No finer incentive to improving the breed could be imagined than the honour of winning a prize presented by the King.

But, unhappily, thanks to mal-administration by those who have been responsible for regulating the Competition, His Majesty's gift has so far done nothing to improve the breed of British aeroplanes.

Therefore one suggests that while there is still time to consider the subject properly, and yet give constructors a chance of designing and building something useful, the King's Cup for next year should be put up for competition on lines very similar to those under which the Ford Tour is run. That is to say, the competition should not be a race at all. It should simply be a test of reliability and usefulness.

We have the Grosvenor Cup and the Air League Cup and the S.B.A.C. Cup for Light Aeroplanes. Also there are the various Club Meetings at which private owners and Club pilots can perform. And we can revive the Aerial Derby if and when anybody wants to build pure racing machines. So let us have a competition for the King's Cup which will help us to produce types of aircraft which will help our trade over-seas.

Business is Business.

We have a way in this country of inventing things which are thereafter taken over to the States and made into mass production jobs. After that we bring them back to this country and perfect them,—as for example, tube railways, gramophones, motor-cars and a few other things.

We held flying competitions in this country long before such things were ever held in America. And in the Ford Tour the Americans have now got far ahead of us so far as useful competition is concerned. Now let us see whether we cannot adopt some scheme like the Ford Tour, and improve the rules so that they will produce aeroplanes very much better than those which are described and illustrated in The Aeroplane this week.

There is one very strong incentive to do so, and that is the fact, as Mr. Bridgman has indicated, that these American machines are already getting the business in Canada which we could very easily get if we would set the right way to work about it. And when once they have established themselves in Canada, the American Aircraft Industry will begin to take the business in Australia and South Africa as well, unless we wake up and get there first.

An Australian Inquiry.

Only last week a cablegram arrived at this office from Australia asking what English land-plane could be recommended for use in an attempt to win the prize which is on offer for a flight from Australia to New Zealand. The machine desired has to have dual control, and a range of something over 1,600 miles.

One is still looking for a machine which one can recommend. A D.H.50 with a Puma or Nimbus would do it, but it could not be easily arranged for dual control, and it might not carry the necessary petrol plus two people, unless special wings were built for it. And so far as one can discover there is not another civil aeroplane in England that would look at the job.

There are several Service aeroplanes which might do it, but they all have engines of 450 h.p. or so,—which would be out of the question on the score of cost. Apart from that, those which are efficient enough to cover the distance are of such modern design that there would be difficulty in getting permission to export them, even for semi-civil purposes.

On the other hand there are half a dozen American machines which could be bought "off the hook" and used for such a flight with quite trifling alteration. So can one blame Canadians and Australians and other inhabitants of the British Empire for not "Buying British"?

History Repeats Itself.

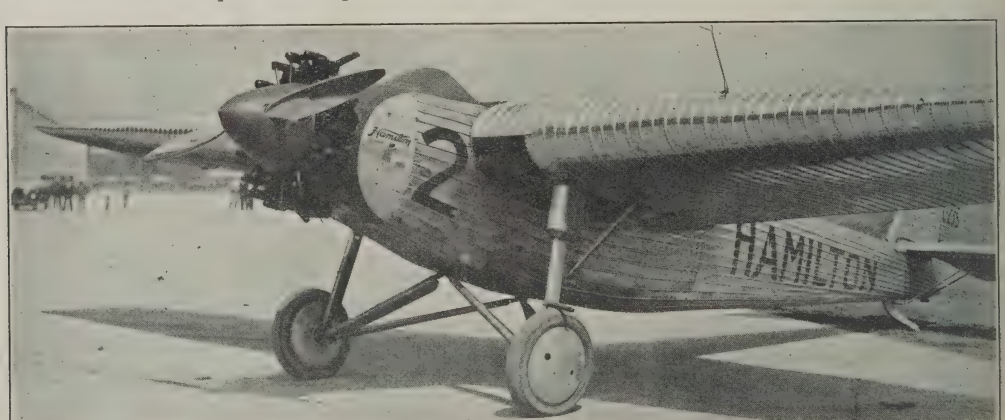
Having, for one's sins, seen the Cycle Trade and the Motor Trade develop from nothing to what they are now, one has seen the Americans capture almost the whole of the World's markets for bicycles, and lose them again, thanks to the enterprise of British firms, mostly under new management. And one has seen the Americans capture practically the whole of the World's Motor Trade, of which a small portion is only now beginning to come back to us, thanks to the enterprise of Mr. Morris.

In the earliest days of aviation one hoped that men of such original mind and of such enterprise as to risk their lives and their fortunes on aeroplanes, would, when the time came, be equally enterprising in their business methods and so would not allow other nations to capture the World's trade in aircraft as the Bicycle Trade and the Motor Trade had been captured. But, quite definitely, unless the British Aircraft Trade does something very definite in the next twelve months, America will capture all the business which we ought to have.

The two things which are needed are, firstly aeroplanes of the right type to meet the needs of customers all over the World, and secondly a thoroughly enterprising commercial policy. These Ford Tour machines show us the lines along which we ought to develop air transport machines. And apparently what is needed to get the markets is a real live selling policy abroad.

The ideal selling policy would be a sort of co-operative society formed by those firms who are out for foreign trade. Failing that some wealthy trading concern which already has its own selling organisations in the British Dominions overseas and in foreign countries might become the selling agency for such firms as realise the value of the markets overseas.

One commends these points to the careful consideration of the British Aircraft Industry. And one recommends that they be considered within the next month or so when the chiefs of all the great firms have come back from their holidays with their vitality renewed so that they may tackle this new problem with the vigour which has in the past given this country the lead in so many other commercial undertakings.—C. G. G.



THE HAMILTON MONOPLANE.—A five-seat all-metal monoplane (Wright Whirlwind). The pilot's cockpit is above the wing and the horizontal windows of the passenger cabin are visible along the lower surface of the wing close up to the side of the fuselage.

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THE TIMES, *28th June*, 1927.

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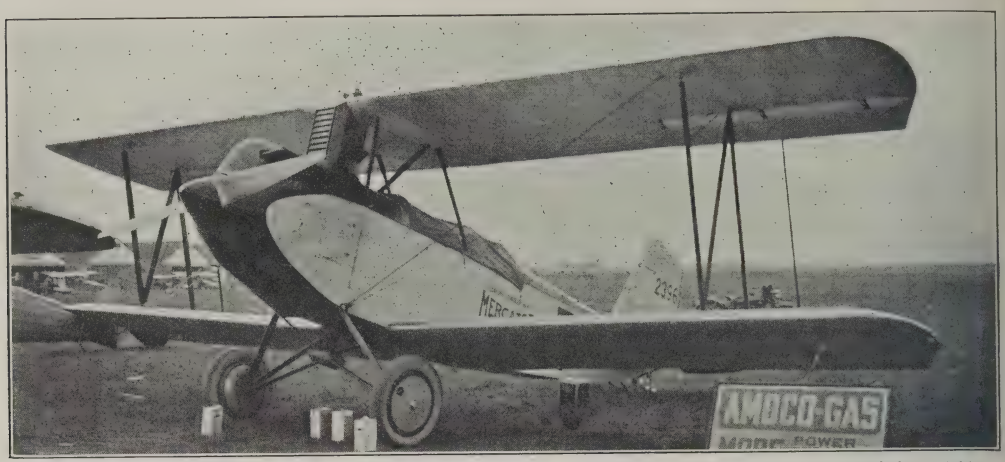
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On two separate occasions have a flight of four Fairey Royal Air Force machines flown from Cairo to Cape Town and back without mechanical trouble. They made certain of success by selecting Napier engines.

THE AMERICAN NATIONAL AIR TOUR.

By Leonard Bridgman.



THE MERCURY ARROW.—A two-three-seater school or touring biplane (Curtiss C-6 water-cooled). This machine, piloted by Mr. H. C. Mummert, has competed in all three Ford Tours. In 1925 and 1926 it was forced to retire on the last day, in the first case by weather when it had a perfect score, and in 1926 by a broken under-carriage when it held third place. This year it won third place.

On June 27 the third annual competition for the Edsel Ford Trophy began from the Ford Airport, Detroit, Mich.

This competition is distinctly a reliability tour and in fifteen days the competing aircraft covered a total distance of over 4,000 miles and visited twenty-five cities in the Middle West, the East and the South of the United States.

The itinerary of the tour was as follows: June 27—Detroit—Buffalo; June 28—Buffalo—Geneva—Schenectady; June 29—Schenectady—Boston; June 30—Boston—New York; July 1—New York—Philadelphia—Baltimore; July 2—Baltimore—Pittsburgh; July 3—Pittsburgh—Cleveland; July 4—Cleveland—Kalamazoo—Dayton; July 5—Dayton—Columbus—Cincinnati; July 6—Cincinnati—Louisville; July 7—Louisville—Memphis; July 8—Memphis—Pine Bluff—Dallas; July 9—Dallas—Oklahoma City—Tulsa; July 10—Tulsa—Wichita—Omaha; July 11—Omaha—Moline—Hammond; July 12—Hammond—Grand Rapids—Detroit.

Of the twenty-four entries received, thirteen started and these were as follows:—

1. Buhl Airsedan (Whirlwind). Pilot: Louis Meister.
2. Hamilton Metalplane (Whirlwind). Pilot: Randolph Page.
3. Alexander Eaglerock (Whirlwind). Pilot: Cloyd Clavenger.
4. Alexander Eaglerock (Curtiss OX). Pilot: Paul Braniff.
6. Pitcairn Mailwing (Whirlwind). Pilot: James Ray.
7. Mercury Arrow (Curtiss C.6). Pilot: Harvey Mummert.
8. Waco 10 (Wright E.4). Pilot: E. W. Cleveland.
10. Waco 10 (Whirlwind). Pilot: Charles W. Meyers.
11. Waco 10 (Whirlwind). Pilot: J. P. Wood.
12. Waco 10 (Whirlwind). Pilot: John P. Riddle.
13. Stinson Detroiter (Whirlwind). Pilot: Leonard Flo.
22. Ryan Brougham (Whirlwind). Pilot: Frank M. Hawks.
24. Stinson Monoplane (Whirlwind). Pilot: E. D. Stinson.

It is noticeable that of these thirteen machines, ten are fitted with the 200 h.p. Wright Whirlwind radial air-cooled engine. It is also interesting to note that ten are fitted with wheel brakes and all are fitted with metal airscrews.

Before the actual competition started all competing machines had to be submitted to tests to determine their maximum speed and their times to take off and land with their full contest load. The resultant figures from these tests were used in the formula which produced the "' Figure of Merit" for each machine.

This "Figure of Merit" was obtained as follows:—The Contest Load in lbs. multiplied by the Maximum Speed multiplied by fifty was divided by the Capacity of the Engine in cubic inches multiplied by the sum of the Times taken to pull up and get off.

This formula was designed to produce in the winner an



THE WACO 10.—A Whirlwind-engined version of this well-known three-seater commercial biplane. At the end of 1926 there were 356 Waco 9's in use, 200 of which were constructed during that year. The model 10 is the 1927 version of the model 9.

The

KING'S CUP RACE

1927

As in 1926, when Capt. Broad flying a de Havilland "Moth" won the King's Cup of that year, this trophy has again been won by an aircraft fitted with a Fairey Patent Metal Airscrew (license Reed).

FIRST

and

SECOND

places in this year's race have been obtained by Capt. W. L. Hope on a similar machine, who won the trophy, and by Capt. McDonough on a Westland "Widgeon III," who obtained second place. BOTH MACHINES USED FAIREY METAL AIR-SCREWS. Mr. Hope says ". . . . the Fairey-Reed gave me the extra miles per hour that enabled me to win the Race."

Sole Manufacturers, and Licensees of the Reed Patent Airscrew for the British Empire :

The Fairey Aviation Co., Ltd.,
Hayes, Middlesex.

FAIREY
LICENSE REED
METAL AIRSCREW



THE STINSON DETROITER.—A four-seater cabin biplane (Wright Whirlwind). This type of machine is in use by North-West Airways and Florida Airways who are operating air mail routes in the States and by Patricia Airways in Canada. The fact that it carried number 13 and was sponsored by " The Veterans of Foreign Wars and Maccabees " did not affect its performance in the Ford Tour.

aeroplane which carried the greatest load with the least horse-power at the highest speed, plus the ability to get off the ground quickly and to pull up in the shortest distance after landing.

Any machine maintaining an average speed of not less than 85 per cent, of its maximum speed was credited with its full figure of merit, no credit being given for maintaining a higher speed. If, however, a machine failed to maintain its full 85 per cent. average it was penalised to the full extent of the difference between its formula speed and the actual average speed over the course.

THE COMPETITORS.

THE BUHL AIRSEDAN (No. 1) is a new five-seater all-enclosed biplane with the Whirlwind engine. It has a welded steel-tube fuselage, wooden wings of unequal span and chord, and steel-tube " N " type interplane struts. The undercarriage is of the split type with rubber-disc springing and Sauzedde wheel-brakes.

Petrol tanks of a total capacity of 70 gallons are carried within the top wing one on either side of the fuselage. It is fitted with a Standard Steel airscrew and an Aeromarine inertia starter.

The overall span is 45 ft., length 27 ft. 4 ins., height 9 ft. and the weight empty is 2,000 lbs.

THE HAMILTON METALPLANE (No. 2) is an all-metal cantilever monoplane with the Whirlwind engine. The fuselage and wing are all-metal including the covering. The wings merge into the top of the fuselage and owing to the depth of the roots of the cantilever wing the cabin windows are actually in the lower surface of the wing.

The cabin accommodates four passengers and in front of the cabin is the pilot's cockpit with the opening in line with the leading edge of the wing. This cockpit may be either closed or open.

The undercarriage is of the split type with a rubber-sprung telescopic strut running up to the wing. The machine is fitted with Sauzedde wheel brakes, an Eclipse inertia starter and a Hamilton metal airscrew.

The span is 48 ft. 5 ins., length 31 ft. 5 ins., height 8 ft. 3 ins. and the weight empty 1,856 lbs.

THE ALEXANDER EAGLEROCK (Nos. 3 and 4) is a three-seater commercial biplane normally fitted with the 90 h.p. Curtiss OX-5 engine. The latest production is a Whirlwind-engined version of this model which sells for $10,000 (£2,000), the OX-5 standard type selling for $2,475 (£495).

It has a welded steel-tube fuselage and wooden wings, all fabric-covered. The undercarriage is of the split type. The top wing is of lesser span than the bottom and there is one set of " N " type interplane struts on either side of the fuselage.

The span is 38 ft., length 24 ft. 5 ins., height 9 ft. 4 ins. and the weight empty (Curtiss OX-5) 1,380 lbs.

THE PITCAIRN MAILWING (No. 6) is a new single-seat mail biplane specially built for the New York—Atlanta mail route to be operated by the Pitcairn company. It is fitted with the Whirlwind engine.

The fuselage is of welded steel tubing of a round-cornered square section. The wings are of wood, the top wing being in one piece. Ailerons are fitted to the bottom plane only. The undercarriage is of the ordinary cross-axle Vee type.

The first machine of the type was completed on June 20, seven days before competing in the tour.

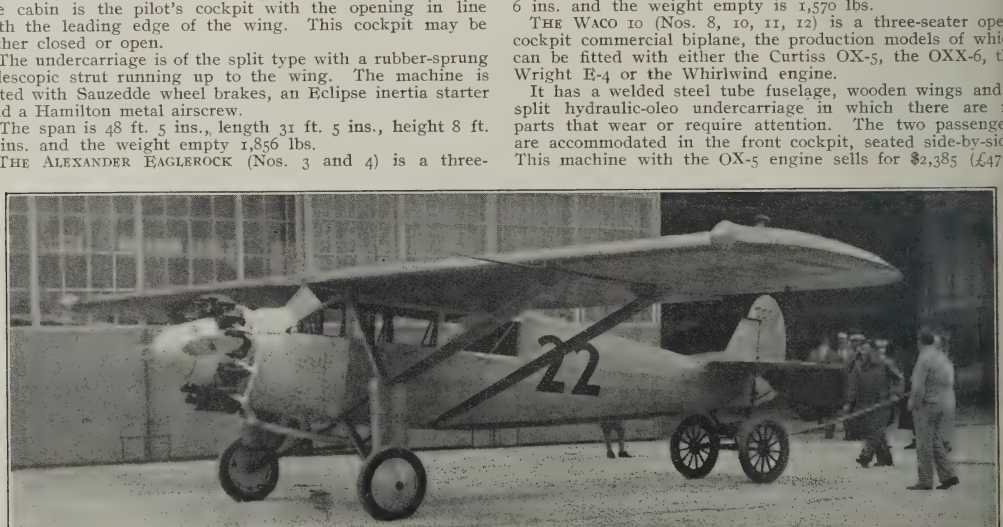
The span is 33 ft., length 22 ft. 10½ ins., and the weight empty is 1,742 lbs.

THE MERCURY ARROW (No. 7) is a three-seat open-cockpit biplane fitted with a six-cylinder water-cooled Curtiss C-6 engine. It has a steel-tube welded fuselage and wooden wings. The undercarriage is of the split type, the two half axles being attached to an inverted Vee cabane under the fuselage. Wheel brakes are fitted and these are operated by the joystick.

The span is 33 ft. 10 ins., length 21 ft. 6 ins., height 9 ft. 6 ins. and the weight empty is 1,570 lbs.

THE WACO 10 (Nos. 8, 10, 11, 12) is a three-seater open-cockpit commercial biplane, the production models of which can be fitted with either the Curtiss OX-5, the OXX-6, the Wright E-4 or the Whirlwind engine.

It has a welded steel tube fuselage, wooden wings and a split hydraulic-oleo undercarriage in which there are no parts that wear or require attention. The two passengers are accommodated in the front cockpit, seated side-by-side. This machine with the OX-5 engine sells for $2,385 (£477)



THE RYAN BROUGHAM.—A five-seat commercial monoplane (Wright Whirlwind). Except for the cabin arrangements and a smaller wing area it is identical with the machine used by Capt. Lindbergh in his New York—Paris flight.

MOTH

CIRRUS ENGINE

The Nottingham
Air Race Meeting
July 30th, 31st, and August 1st, 1927

THE KING'S CUP

won for the second year in succession
by a
MOTH

THE UTILITY RACE

(Calling for simplicity and rapidity of folding and spreading the wings and for ease of handling on the ground.)

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2ND....MOTH

THE LADIES' RACE

1ST....MOTH
2ND....MOTH
3RD....MOTH

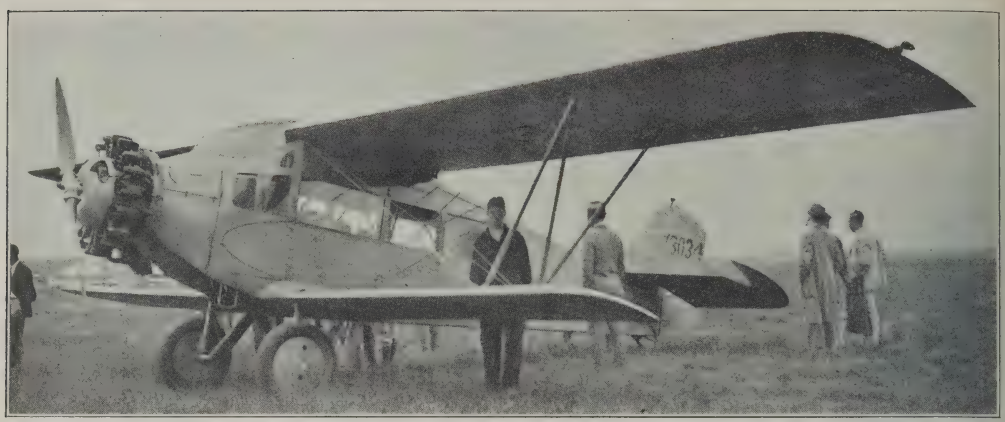
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(The first owner-flown machine to cross the line)
and

THE GROSVENOR CUP

1ST....MOTH

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THE DE HAVILLAND AIRCRAFT CO., LIMITED,
Stag Lane Aerodrome, Edgware.
Telephone: COLINDALE 6160. *Telegrams:* "HAVILLAND, EDGWARE"



THE BUHL AIRSEDAN.—A five-seat all-enclosed biplane (Wright Whirlwind), metal fuselage, wooden wings, wheel brakes, impulse engine-starter.

The span is 29 ft. 6 ins., length 23 ft. 4 ins., height 8 ft. 10 ins. and the weight empty (Curtiss OX-5) 1,090 lbs.

The Stinson Detroiter (No. 13) is a four-seater enclosed-cabin biplane fitted with the Whirlwind engine. The fuselage is a welded steel-tube structure and the wings are built up of wood spars and metal ribs, all being fabric-covered. The Stinson Detroiter was the first American machine to be fitted with an entirely enclosed sound-proof cabin which can be heated for winter flying, an engine starter and Sauzedde wheel brakes. Dual control is fitted.

The overall span is 35 ft. 10 ins., length 28 ft. 10 ins., height 10 ft. 7 ins. and the empty weight 1,700 lbs.

The Ryan Brougham (No. 22) is an all-enclosed cabin monoplane accommodating four people and fitted with a Whirlwind engine. In outward appearance it is exactly like the monoplane used by Colonel Lindbergh for his flight from New York to Paris but naturally the internal arrangements are different.

The cabin has large windows on both sides and front which are adjustable to closed and open positions. The pilot sits in front and has an adjustable windshield. It has a welded steel-tube fuselage and wooden wings. The undercarriage is of the split type, the telescopic members being attached to the sloping wing bracing struts.

The overall span is 36 ft. and the wing area 249 sq. ft.

The Stinson Monoplane (No. 24) is a five-seater enclosed monoplane fitted with the Whirlwind engine. The fuselage is almost identical to that fitted to the Stinson Detroiter, but has wicker seats instead of the heavier leather-upholstered type. The fuselage is a welded steel tube structure and the wooden wing is attached direct to the top longerons of the fuselage.

The foot-operated wheel brakes have been replaced with air brakes. And a high-pressure air-injector engine-starter has taken the place of the electric starter. Nearly all the controls are of the direct push-and-pull type.

The overall span is 45 ft. and the wing area 292 sq. ft.

The Preliminary Tests.

The results of the preliminary tests were as follows :—

Number.	Load.	Time to Stick.	Time to Unstick.	High Speed.
1.	1,000 lbs.	10.83 sec.	15.97 sec.	115 m.p.h.
2.	1,200 lbs.	5.93 sec.	16.83 sec.	112.3 m.p.h.
3.	500 lbs.	7.97 sec.	9.96 sec.	130.2 m.p.h.
4.	400 lbs.	10.17 sec.	16.00 sec.	93.1 m.p.h.
5.	570 lbs.	13.00 sec.	10.45 sec.	127.7 m.p.h.
7.	700 lbs.	7.37 sec.	15.50 sec.	122.8 m.p.h.
8.	450 lbs.	10.83 sec.	10.80 sec.	111.3 m.p.h.
10.	600 lbs.	9.33 sec.	10.47 sec.	119.3 m.p.h.
11.	650 lbs.	7.00 sec.	11.00 sec.	120.3 m.p.h.
12.	656 lbs.	8.83 sec.	11.00 sec.	115.6 m.p.h.
13.	1,000 lbs.	10.30 sec.	18.30 sec.	116.7 m.p.h.
22.	1,000 lbs.	15.43 sec.	16.30 sec.	124.1 m.p.h.
24.	1,500 lbs.	12.13 sec.	17.00 sec.	124.3 m.p.h.

As has been already mentioned there was no advantage in maintaining more than an 85 per cent. average of the high speed figure over the course, but a number of competitors deemed it advisable to hold down their high speed in the preliminary tests so as to have a greater reserve in hand in case of head winds or other delays. This was the case in so far as the four Waco entries were concerned.

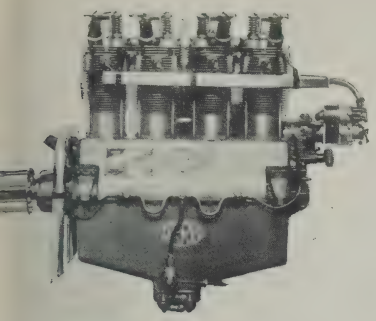
The Tour.

The actual tour started from the Ford Airport, Detroit, at 10.00 hours on June 27, the machines leaving at one minute intervals in the order in which the machines were numbered.

Everything went according to plan until the stage between Schenectady and Boston was reached. Over the Berkshire mountains at a point about 70 miles from Boston the competitors ran into an easterly storm with rain and solid banks of fog and cloud. The Ryan (No. 22) was forced to land at Athol, one Waco and the Buhl (No. 1) at Gardner, the Eaglerock (No. 4) at Holden. The Hamilton (No. 2) got completely lost and landed at Newport, R.I., to inquire the way and refuel.



THE PITCAIRN MAILWING.—A single-seat mail carrier (Wright Whirlwind) produced for the New York—Atlanta air-mail route to be operated by the Pitcairn company. The machine has a 26 cubic foot mail compartment to hold 450 lbs. of mail.



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1st, CIRRUS engined "MOTH."
2nd, CIRRUS engined "MOTH."
3rd, CIRRUS engined "MOTH."

The NEW DE HAVILLAND "TIGER MOTH" with A.D.C. "CIRRUS" Mark II attained an average speed of **166 M.P.H.** over the first leg of the course in the KING'S CUP AIR RACE.

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THE WACO 10.—A three-seat commercial biplane (180 h.p. Wright E-4 water-cooled). This machine was entered by the Cleveland Pneumatic Tool company and flown by Mr. E. W. Cleveland.

All machines reached Boston in time to start for New York next day and all reached New York on schedule time except the Buhl (No. 1).

At Baltimore the Stinson Monoplane (No. 24) was leading with 2,785.4 points, the Hamilton (No. 2) was second with 2,327.1 points and the Mercury Arrow was third with 2,300.2 points.

By time the machines had reached Hammond, the Stinson Monoplane had increased its score to 9,040.5 points, but the Mercury Arrow had climbed into second place with a score of 7,150.7 points owing to the Hamilton being forced to land between Wichita and Tulsa with a broken valve spring.

Between Pittsburgh and Cleveland the Eaglerock (No. 3) was forced to return to Pittsburgh with a broken connecting rod. The other Eaglerock (No. 4) left the tour at Omaha for personal reasons. No. 3 rejoined the tour later but was not classified. These two Eaglerocks were the only machines to fail to come into the final classification.

The Mercury Arrow lost its second place to the Hamilton in the last lap.

The final classification was as follows :—

Classification.	Contest No.	Score	
		Max. possible.	Actual.
1.	24 Stinson (mono.)	10,165.	9,853.7.
2.	2 Hamilton.	9,405.	7,863.5.
3.	7 Mercury.	8,215.	7,807.
4.	11 Waco.	6,900.	6,857.
5.	13 Stinson (bi).	6,520.	6,386.
6.	22 Ryan.	6,207.	5,688.
7.	12 Waco.	6,075.	5,685.5.
8.	10 Waco.	5,732.	5,623.9.
9.	1 Buhl.	6,817.	5,375.
10.	6. Pitcairn.	4,935.	4,666.3.
11.	8 Waco (E.4).	4,030.	3,725.

It will be seen from this table that the final position was assured after the conclusion of the preliminary tests and that in only one case did a machine (No. 1) finish in a position other than that decided by its maximum possible score determined before the start of the actual tour.

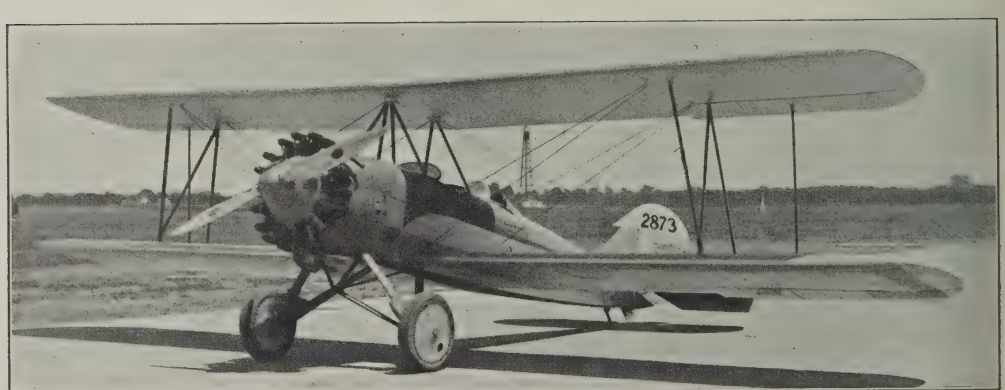
A three-engined Ford Transport monoplane (three Whirlwind engines) competed *hors concours* and out of a possible 8,085 scored 7,609 points. Which would have placed it fourth had it been competing.

It is interesting to note that of the three new types competing, the Stinson monoplane, the Hamilton monoplane and the Buhl Airsedan, all of the all-enclosed cabin type, the first two were first and second and the Buhl Airsedan, had it not lost points owing to being behind schedule time at New York, would on its maximum possible points have been fifth.

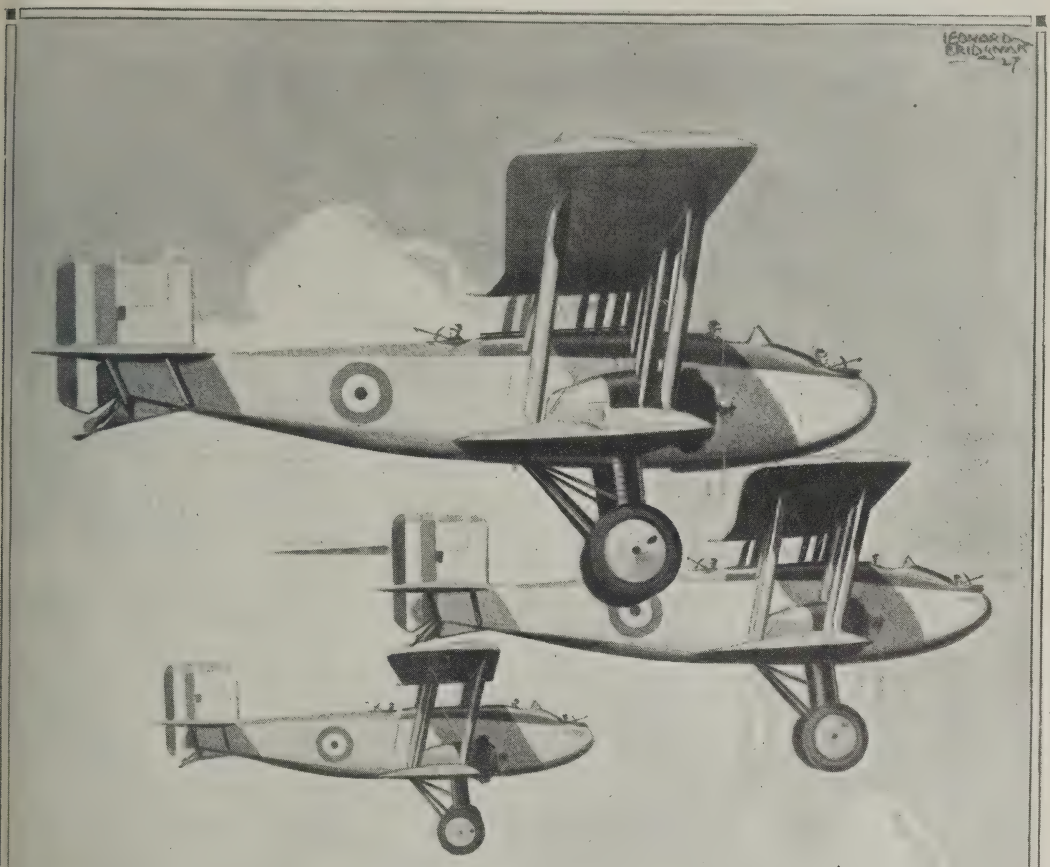
As no Air Tour is complete without a bride and a groom, the Ryan Brougham (No. 22) piloted by Frank M. Hawks accommodated the pilot's bride and the tour was made to perform the function of a honeymoon.

Also as no aviation event of any kind can take place without grumbles (very often legitimate ones) from competing pilots it is refreshing to see that even the American governors of the sport of flying can lose their halos at times.

For the preliminary tests an electrical timing device was mounted on a Ford car (old type) and this outfit was viewed with much distrust by most of the pilots who watched its operation. With an instrument capable of timing to one-hundreth part of a second they naturally looked for accurate results, but through mismanagement the machine was placed in a spot so distant from where the landing and take-off trials were being conducted that a relay system of flagging the timer was arranged. This method destroyed any advantages pertaining to the split-second capabilities of the machine, and coupled with the apparent inability of the timers to keep their attention always focussed on the flag,



THE ALEXANDER EAGLEROCK.—A three-seater commercial biplane (Wright Whirlwind). With the Curtiss OX-5 engine this machine sells for £495 and the company are turning out more than one a week and are over 40 machines behind delivery at the present time.



Boulton & Paul
Aircraft
NORWICH, ENGLAND

the outfit became the centre of a storm of protest from the competitors.

The matter was finally settled by the obvious method of moving up the "Tin-Lizzie" to a point close to the landing and take-off course and doing away with the flags.

Compared with last year's Tour there were fewer starters but a higher percentage of finishers this year.

The performance of the Stinson Monoplane was distinctly good. Carrying a useful load of 2,275 lbs. instead of the 1,500 lbs. contest load (a total of 275 lbs. more than the total weight of the machine itself), it averaged 113.4 m.p.h. over the whole 4,166 mile course and finished with a score nearly 2,000 points higher than the second machine.

Of the four Waco 10 biplanes entered, one put up the highest average speed, 118.23 m.p.h., over the course, two finished with the highest percentage of possible points, and all four finished.

It may be argued that a similar contest held in this country spread over a period of two weeks would fail to hold the interest of the public. This brings up the question as to whether the public interest is after all the only thing to be considered. Even if it is, the method of holding the only event which in this country can compare with the Ford Tour, that is the race for the King's Cup, can hardly be considered to produce any valuable or sustained public interest.

When a race attracts entries with engines ranging from 30 to 500 h.p. which necessitates the use of an obscure formula that includes as one of its values such a variable and easily faked quantity as wing span, and when a forced landing due to weather, loss of direction or minor engine troubles knocks out a promising entry although it may have rectified its trouble in a few minutes, then what little public interest there is does not compensate for the loss of a true demonstration of the real commercial utility of the modern aeroplane.

With all due respect to the wonderful little Moth which has set a new fashion in aircraft and deserves all the success it has gained, in both the King's Cup races which it has won it has only demonstrated its ability to maintain a good average speed as a species of racing single-seater, which is not its proper function in life.

The Ford Tour attracted thirteen entries all of which without any alteration can be sold as definitely useful commercial aeroplanes. They were all of a similar type and all but three were fitted with the same type of engine. They all carried their load of passengers, and the thirteen official entries plus the two Ford three-engined machines which accompanied the tour, one *hors concours* and one, a Navy machine, carrying officials of the Tour, carried over fifty passengers of both sexes, many of whom were changed at various points of the Tour.

Admittedly the requirements of the United States and Great Britain are widely different. We have no internal mail routes which use in considerable numbers just such a type of machine as was competing in the Ford Tour. We have not got the population of the States nor its wide open spaces with bad intercommunication between the growing towns. Nor have we got the money. But we have got the Light Aeroplane movement, which is non-existent in the United States and the success of this movement both at home and in the Dominions is primarily due to the efforts of the De Havilland company who produced the Moth when everyone else who had to do with Light Aeroplanes was concerning himself with aerial scooters of a singularly useless type.

But outside Great Britain and within the Empire we have a great field that is open to capture by the American Aircraft Industry in the same way as it was captured by the American automobile industry.

Canada is buying a number of aeroplanes, all of the Ford Tour class. And when she gets her Trans-Continental Mail Route going she will want some more. Australia will not go on for ever using the D.H.50, and as yet we have no machine to replace it. South Africa has been talking of opening up air routes. And the Air Survey Company and the Aircraft Operating Company, who are doing all the real commercial aviation in the lesser-known but equally important parts of the Empire, are ready to replace their old war-time design aircraft with new and up-to-date equipment.

Australians and Canadians who are preparing to attempt to fly the Atlantic and Pacific respectively are buying American aircraft. Whether they succeed or not does not discount the fact that they have chosen types that have already accomplished these flights in other hands, and these machines, the Ryan, the Bellanca and the Travel Air, all with the Whirlwind engine, are of a type exactly similar to those which participated in the Ford Tour.

At present we have no aeroplane that can be classed with the present successful American type of commercial aeroplane unless we include the four-year-old D.H.50 with its 230 h.p. water-cooled engine of war-time design. Outside the large multi-engined aircraft of Imperial Airways, the D.H.50 has proved to be our only middle-weight commercial aeroplane and the fact that it is used by Imperial Airways, by three of the famous Australian air-lines, by the Czecho-Slovak State Air Line and by the Sabena in the Belgian Congo proves that it fills a definite want.

Except for the penetration of Canada, America has done little business outside its boundaries as yet. It is too busy attending to its own wants. But this huge internal demand is increasing production facilities and reducing costs which will only make competition all the harder when we wake up.

An Empire Marketing Board is doing good work selling British goods in the Empire and Empire goods in Great Britain, but all these goods actually exist. If we want to sell British aircraft in the Empire we have got to abandon our Mutual Admiration Society outlook and build to Empire requirements. What are we going to do—get down to it or watch our competitors reaping their reward?

RYAN RECONSTRUCTION.

Ryan Air Lines of San Diego, California, the designers and builders of the Ryan monoplane used by Captain Lindbergh on his flight from New York to Paris, has been reorganised and is now known as the Mahoney Aircraft Company. Mr. B. F. Mahoney, formerly the General Manager of the old company, is Managing Director of the new company, which has obtained new capital to the extent of $500,000.

The present plans of the company calls for the production of one machine a day until May 15, 1928, after which production will be increased to two machines per day. The company also intends to establish selling agents throughout the States, Central and South America, Europe and Asia.

Their present production, the Ryan cabin monoplane of a type similar to the *Spirit of St. Louis*, is now to be known as the Mahoney B-1.

U.S. NAVY CONTRACTS.

The U.S. Navy Department have recently awarded contracts for 54 aeroplanes and 48 air-cooled aircraft engines at a total cost of $1,647,478 (about £330,000).

The Curtiss company received an order for 18 single-seat ship-board fighters with 400 h.p. Pratt and Whitney Wasp engines ($513,191).

The Chance Vought company received an order for 20 Vought Corsair two-seat observation aircraft with 400 h.p. Pratt and Whitney Wasp engines and an experimental fighter ($597,050).

The Consolidated Aircraft Corporation received an order for 15 two-seat training machines known as the Consolidated Husky (NY-2) ($127,137).

The Wright Aeronautical Corporation received an order for 48 500 h.p. Wright Cyclone engines and spare parts ($610,000).



THE FORD TRANSPORT.—A three-engined all-metal commercial monoplane (Wright Whirlwinds). It carries ten passengers and baggage and fuel for six hours. Two machines of this type accompanied the Tour, one "hors concours" and one carrying officials of the Tour.

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SUNNINGEND WORKS CHELTENHAM
GLOS.



R.33 ABOUT TO ASCEND WITH GLOSTER "GREBES."

"Flight" photograph

GLOSTER

THE ROYAL AIR FORCE.

The London Gazette.

Aug. 9.

General Duties Branch.—Capt. P. S. Mumford (Regular Army Reserve of Officers) is granted a S.S. comn. as a Flt. Lt. for three years on the active list (Aug. 9); Plt. Off. H. E. Milton is promoted to the rank of Flg. Off. (July 6).

The following officers are transferred to the Reserve:—Class A.—Flt. Lt. F. C. Broughton Greene (Aug. 10); Flg. Off. R. H. Winn (Aug. 10). Class C.—Flg. Off. J. C. Walker (Aug. 9); Flg. Off. G. A. Elliot, M.C. (Aug. 10). Plt. Off. D. H. A. C. D. Patton-Bethune resigns his S.S. comn. (Aug. 10). The S.S. comn. of Plt. Off. on probation R. H. Griffith is terminated on cessation of duty (July 28).

Stores Branch.—Flg. Off. C. S. Whellock is granted a perm. comn. in this rank with effect from Oct. 1, 1926, on completion of probationary service.

Medical Branch.—C. S. de Segundo, O.B.E., V.D., M.B., B.S. (Maj. R.A.M.C. (T.F.) (Retd.)), is granted a temp. comn. as Flt. Lt., with effect from and with seniority of July 25.

The following officers are granted temp. comns. as Flg. Offs. on attachment to the R.A.F. (July 18). They will continue to draw emoluments from Army sources:—Temp. Lt. A. P. McClare, Gen. List, Army (Dental Surgeon). Temp. Lt. S. McC. Craig, Gen. List, Army (Dental Surgeon).

The following officers relinquish their temp. R.A.F. comns. on return to Army duty (July 18):—Flt Lt. A. Rhodes (Capt., Army Dental Corps). Flt. Lt. N. F. Smith (Capt., Army Dental Corps).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. as Plt. Offs. on probation:—Class A.A.—A. M. Lester and B. P. W. Twist (July 28); M. B. Barclay and T. P. Mulcahy (July 29). Class B.—W. A. E. Featherstone (Aug. 9).

The following Plt. Offs. are promoted to the rank of Flg. Off.:—E. R. Meads (Aug. 8); G. N. Warwick (Aug. 9).

The following Flg. Offs. are transferred from Class A to Class C:—E. M. Bates (July 9); F. V. Gauntlett (Aug. 9).

Flt. Lt. H. Cooch relinquishes his comn. on completion of service (Aug 1).

The following Flg. Offs. relinquish their comns. on completion of service:—C. H. Baker (Aug. 3); C. M. McClean (Aug. 5).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Offs.:—No. 603 City of Edinburgh (Bombing) Squadron.—J. T. L. Shiells (July 22); I. E. C. Watson (July 22). No. 605 County of Warwick (Bombing) Squadron.—Plt. Off. K. D. Foster resigns his comn. (Aug. 10).

Appointments.

Week ending Aug. 15.

General Duties Branch.—Air Commodore E. L. Gerrard, C.M.G., D.S.O., to H.Q., Air Defence Group, pending appointment as A.O.C., 9/8.

Squadron Leaders R. T. Leather, A.F.C., to Air Ministry, Directorate of Organisation and Staff Duties, 15/7. J. L. Vachell, M.C., to R.A.F. Staff College, Andover, 15/7. H. A. Whistler, D.S.O., D.F.C., to No. 55 Sqdn., 'Iraq, 15/7.

Flight Lieutenants C. Findlay, D.F.C., to No. 55 Sqdn., 'Iraq, 15/7. H. K. Goode, D.S.O., D.F.C., to No. 45 Sqdn., Egypt, 22/7. J. N. Boothman, to H.Q., 'Iraq., 16/7. L. M Hilton, D.F.C., A.F.C., to H.Q., Coastal Area, 26/7. H. N. Thornton, to C.F.S., Wittering, 29/8. H. O. Long, D.S.O., to Home Aircraft Depot, Henlow, 1/8. A. J. Warwick, H. A. Hamersley, M.C., and F. G. Gibbons, D.F.C., to Home Aircraft Depot, Henlow, 30/7. J. C. Stevens, to R.A.F. Base, Calshot, 8/9. P. S. Mumford, to R.A.F. Depot, Uxbridge, on appointment to a S.S. Comn., 9/8.

Flying Officers H. M. S. Wright, A. H. Wheeler, W. A. Tattersall, A. W. B. McDonald, J. M. Cohu, G. B. M. Rhind and J. H. McC. Reynolds, to Home Aircraft Depot, Henlow, 30/7. C. Dollery, M.B.E., to R.A.F. Training Base, Leuchars, 15/8. F. R. D. Swain, to Home Aircraft Depot, Henlow, 11/8. C. R. Mason, to No. 39 Sqdn., Spittlegate, 30/8. A. E. Paish and G. D. Green, to Home Aircraft Depot, Henlow, 16/7. T. Sullivan, to R.A.F. Depot, Egypt, 20/7. J. W. Rose, D.S.M., to Wireless Station, Ismailia, 1/5.

Pilot Officers A. P. de Woulf de Wyt, to Aircraft Depot, India, 17/7. R. C. Greenhalgh, to No. 70 Sqdn., 'Iraq, 14/7. H. C. Marett, to No. 55 Sqdn., 'Iraq, 14/7. R. J. Stone, to R.A.F. Depot, Uxbridge, 19/8. E. J. Martin, to No. 2 F.T.S., Digby, 9/8. P. L. A. Berthon, to R.A.F. Depot, Uxbridge, 9/8.

Medical Branch.—Squadron Leader T. McClurkin, M.C., D.P.H., to Pathological Laboratory, Halton, 10/8.

Flight Lieutenants V. S. Ewing, M.B., to R.A.F. Hospital, Halton, 10/8. E. G. Howell, to R.A.F. Depot, Egypt, 15/7.

Flying Officer J. Hill, M.B., to R.A.F. Hospital, Halton, 10/8.

Stores Branch.—Squadron Leader F. A. Baldwin, to H.Q., Fighting Area, Uxbridge, 1/9.

Flying Officers C. J. Elliott, to R.A.F. Depot, Uxbridge, 7/8. F. C. Griffin and F. R. Lines, to R.A.F. Depot, Uxbridge, 6/8.

Accountant Branch.—Squadron Leader A. R. Thomas, to No. 1 Stores Depot, Kidbrooke, 26/8.

A Service Flying Boat Cruise.

A Service cruise to the Scandinavian capitals by flying-boats of the R.A.F. left the Marine Aircraft Experimental Establishment at Felixstowe on Aug. 12.

The itinerary of the cruise, which will cover over 3,000 miles, is as follows:—

Aug. 12.—Oslo, 720 miles. Aug. 14-18.—Oslo. Aug. 19.—Oslo to Copenhagen, 300 miles. Aug. 20-22.—Copenhagen. Aug. 23.—Copenhagen to Gdynia, 240 miles. Aug. 24-26.—Gdynia. Aug. 27.—Gdynia to Danzig, 17 miles. Aug. 27-29.—Danzig. Aug. 30.—Danzig to Helsingfors, 490 miles. Aug. 31-Sept. 2.—Helsingfors. Sept. 3.—Helsingfors to Stockholm, 240 miles. Sept. 4-6.—Stockholm. Sept. 7.—Stockholm to Copenhagen, 405 miles. Sept. 8.—Copenhagen. Sept. 9.—Copenhagen to Helder, 425 miles. Sept. 10.—Helder. Sept. 11.—Helder to Felixstowe, 160 miles.

The equipment of the Unit consists of four different types of Service Flying-Boats, (i) The Blackburn Iris II, a development of the Iris I but with an all-metal hull (three Rolls-Royce Condor engines); (ii) The Saunders Valkyrie (three Rolls-Royce Condor engines); (iii) The Short Singapore, all-metal (two Rolls-Royce Condor engines); and (iv) Supermarine Southampton (two Napier Lion engines).

The Flight is under the command of Sq. Ldr. C. L. Scott, D.S.C., who is first pilot of the Iris II. This machine is carrying as a passenger the Secretary of State for Air.

The personnel of the Flight are:—Sq. Ldr. C. L. Scott, D.S.C., Flt. Lts. B. C. H. Cross, D.F.C., F. W. W. Wilson, L. Martin and W. E. Dipple, Plt. Offs. W. G. Abrams, C. E. Chilton and R. S. Darbishire.

Major R. E. Penny, O.B.E., a Principal Technical Officer in the Directorate of Scientific Research and Technical Development at the Air Ministry, is a passenger in the Valkyrie.

The R.A.F. Cadetships.

The following are declared by the Civil Service Commissioners to be the successful candidates at the competition held in June, 1927, for admission to the R.A.F. Cadet College, Cranwell. Their admission is conditional on their having passed a medical examination. The names are in order of merit:—

Barrett, G. G., Cole, F. C., Murray, S. S., Keary, R. C., Auster, M. J. C., Vintras, R. E. de T., Hebden, W. S., McNalty, G. P. B., Douglas-Hamilton, Lord, M.A., Drew, F. R., Spendlove, W. V. L., Burney, S. H. d'A., Steel, A. K., Dugdale-Bradley, J. O., Heath, M. L., Craig, A. T. B., Wightman, W. T. F., Niblett, K. W., Hovenden, D. A., Watt, C. A., Tolson, R. H. F. S., Fairtlough, G. K., Burke, W. I. H.

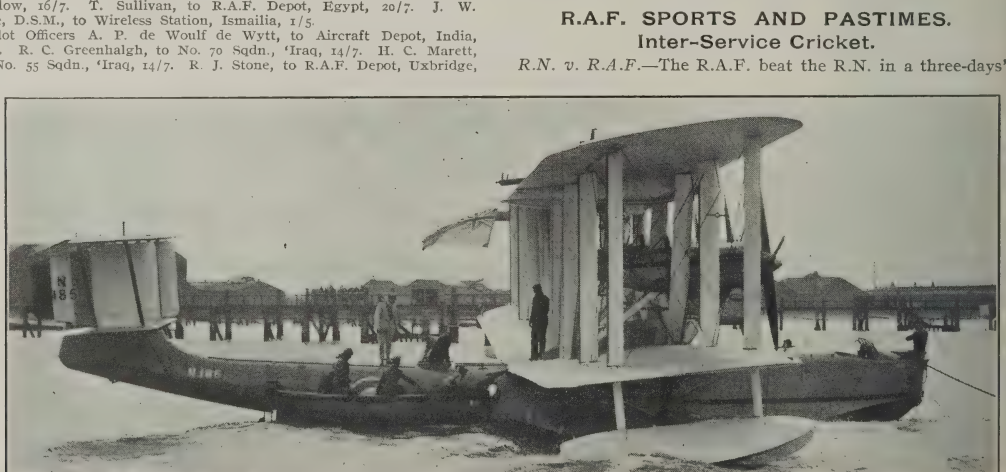
King's Cadet who has Qualified.—Corbally, E. J.

Hon. King's Cadet who has Qualified.—Hilliar, H. H.

R.A.F. SPORTS AND PASTIMES.

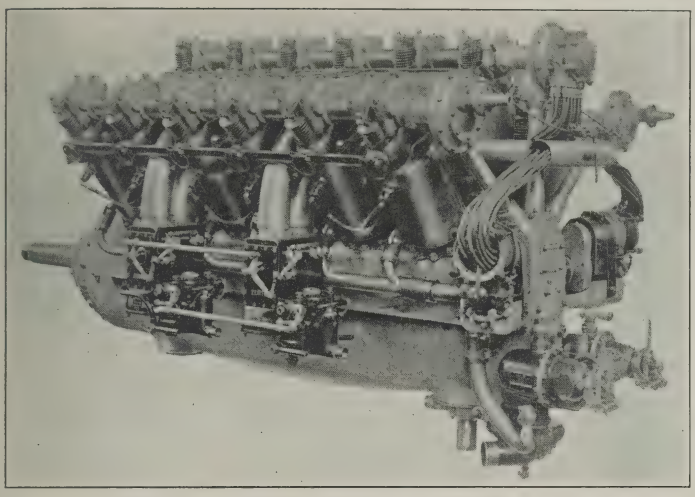
Inter-Service Cricket.

R.N. v. R.A.F.—The R.A.F. beat the R.N. in a three-days'



THE FLAG-SHIP.—The Secretary of State for Air going aboard the Blackburn Iris II (three Condors) for the cruise to the Baltic.

LORRAINE-DIETRICH AERO ENGINES



650 H.P. Direct Drive or Geared.

Have the benefit of the Greatest Technical Experience.

Of Simple Design and Construction, Economic in Upkeep, and Reliable in Operation.

Lorraine-Dietrich Engines are the most widely known and the most widely used in the world.

They enable thousands of Military and Civil Aircraft to carry on unnoticed their regular routine duties.

They have also made possible a large number of outstanding achievements known the world over.

1925.

Rome—Melbourne—Tokio—Rome. Colonel the Marchese de Pinedo. Savoia Flying Boat (450 h.p.). 54,000 kms. in 380 hours.

New York—Buenos Aires. MM. Duggan, Oliveiro, Campanelli. Savoia Flying Boat (450 h.p.).

1926.

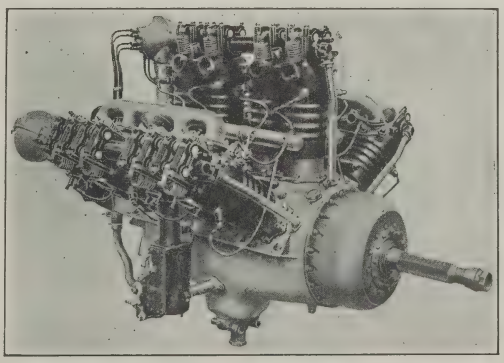
World's Height Record. M. Callizo, on a Bleriot Spad 61 (450 h.p.). 12,442 m.

Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris—Rome—Tunis—Casablanca—Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs. 45 mins.



450 H.P. Direct Drive or Geared.

1927.

Across Africa. Capt. De Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h.p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h.p.). 2,565 kms. in 17 hrs. 30 mins.

SOCIÉTÉ LORRAINE-DIETRICH, Argenteuil (Seine et Oise), France.

match at the Oval on Aug. 10, 11, and 12, by six wickets. (The Navy beat the Army at Lords in July.)

The R.A.F. Swimming Association.

The Second Championship Meeting of the R.A.F. Swimming Association will be held on Sept. 9 at the Holborn Baths, Endell Street, London, at 19.45 hours.

The Band of the Royal Air Force will play. Admission will be 2s. 6d. and 1s.

The Events will include the Inter-Unit Water Polo Final, an Inter-Unit Relay Race, an Inter-Service Cadet College Relay Race, and Championships of 50 yards, 100 yards, 220 yards and 440 yards.

Spit and Polish.

An enthusiastic member of No. 2 F.T.S., Digby, writes protesting that No. 41 Squadron has no prescriptive right to be called either the "Spit and Polish" Squadron or the "Brightest Performers." He says that No. 2 F.T.S. is the envy of every visitor from other units. Further he adds that for the last three years at the A.O.C.'s inspection, the machines of No. 2 F.T.S. have been commended as the best-kept aeroplanes in the Service.

That is the right spirit. One wishes that every unit in the R.A.F. was as keen on its up-keep, as well as on its output.

THE HUDSON STRAIT EXPEDITION.

On July 14 the Canadian Government Expedition to the Hudson Strait sailed from Halifax. It is proposed to establish three bases, one at Port Burwell at the east end of Hudson Strait, one on Nottingham Island, at the west end and one on Big Island, midway between the two. The east and West bases are 500 miles apart.

The Expedition is under Mr. N. B. McLean, an engineer of the Department of Marine and Fisheries, and he will be accompanied by a complement of officers of the R.C.A.F. and a detachment of the Royal Canadian Corps of Signals, who will be stationed at the Big Island Base in wireless communication with the other bases.

The flying equipment consists of six Fokker Universal monoplanes (200 h.p. Wright Whirlwind engines) fitted with interchangeable wheel, float and ski undercarriages.

The object of the expedition is to examine the possibilities of developing the Hudson's Bay region with a view to opening up a Trans-Atlantic outlet for the products of Western Canada.

The expedition, which will be away for eighteen months, will examine what aids to Navigation can be devised and will determine the period of navigation as well as gather other useful information concerning ice conditions, currents and tides

WHEN IS A RECORD NOT A RECORD?

At the meeting of the F.A.I. which is to be held at Zurich, Aug. 14 to 19, the two flights by Capt. (now Col.) Lindbergh and by Mr. Chamberlin from the United States to Europe will be considered with a view to their formal recognition as records.

But according to the rules of the F.A.I., all aeroplanes or seaplanes must carry a parachute—weighing at least 10 kg.—for each member of the crew and each passenger before its performance can be recognised.

According to a Paris correspondent of *The Morning Post* it is believed that neither Lindbergh nor Chamberlin complied with this regulation, and that the F.A.I. will therefore have either to ignore its own rule, or refuse to pass either of the flights as a record.

As Capt. Lindbergh could scarcely have used a parachute from his enclosed cockpit had he carried one there seems every probability that he did not.

One is entirely in favour of encouraging parachutes, when parachutes may usefully be encouraged, but it seems ridiculous to enforce this particular rule in this particular way.

THE SCHNEIDER TROPHY COMPETITION.

On Aug. 8, General Italo Balbo, Under-Secretary of State for Air, presided at a meeting of the Committee which is organising the Schneider Trophy Competition at Venice. The date of the actual speed race was fixed for Sept. 25, and it was confirmed that Italy and Great Britain would each be represented by a team of three seaplanes.

It is understood that America had asked for a postponement to enable their one entry to compete, but it appears from the above meeting that this has been refused.

The American seaplane which has been built for Lieut. A. L. Williams by the Kirkham Products Co. is now undergoing trials in secret at Port Washington, and the machine is housed in a private hangar. As the machine is so far advanced there still remains a possibility that it may compete in spite of Italy's refusal to postpone the date.

THE TAYLOR MEDAL.

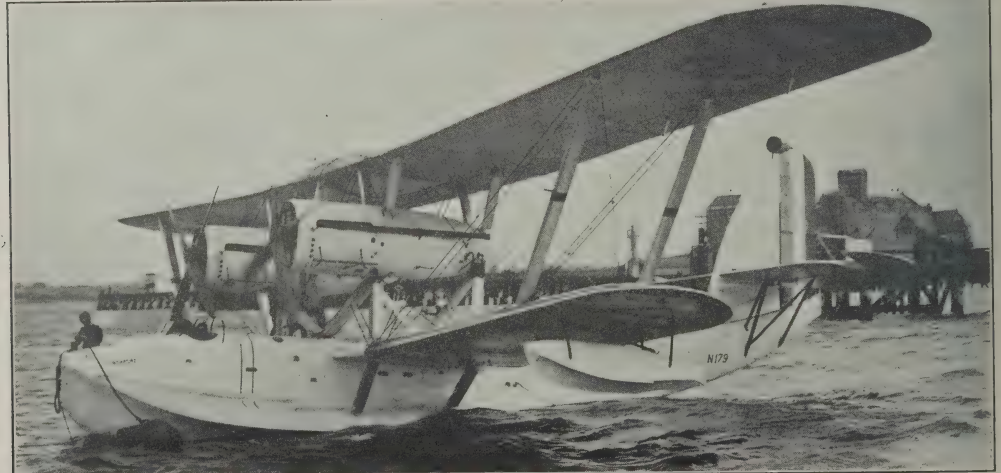
The Council of the Institution of Aeronautical Engineers have decided to award the Taylor Medal for the Session 1926-27 to Capt. F. S. Barnwell, O.B.E., B.Sc., F.R.Ae.S., M.I.Ae.E., for his paper "Some Notes on the Design of Airscrews."

The Taylor Gold Medal is presented to the Institution by Capt. G. A. Taylor, F.R.A.S., F.R.G.S., M.I.Ae.E., a member of the Australian Branch of the Institution, to be awarded annually to the member who submits the most valuable paper to the Institution during the current year.

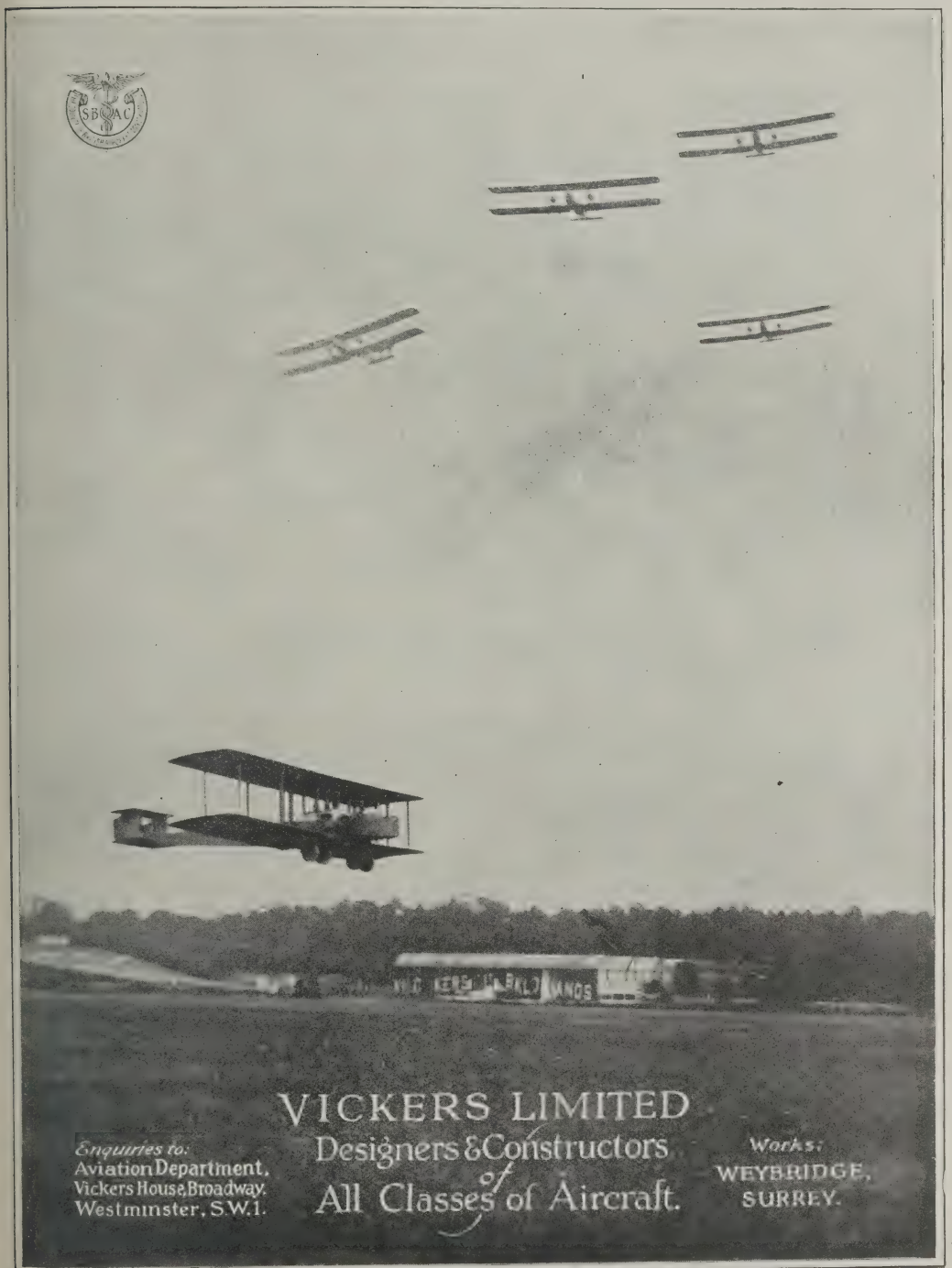
Capt. Barnwell's paper described in detail a simple and straightforward method of designing an airscrew for any normal type of aircraft which could be followed with ease by any reasonably competent drawing office staff. The paper is therefore eminently of a practical and useful type, and the Council are to be congratulated on their decision in this matter.

BY AIR TO VENICE.

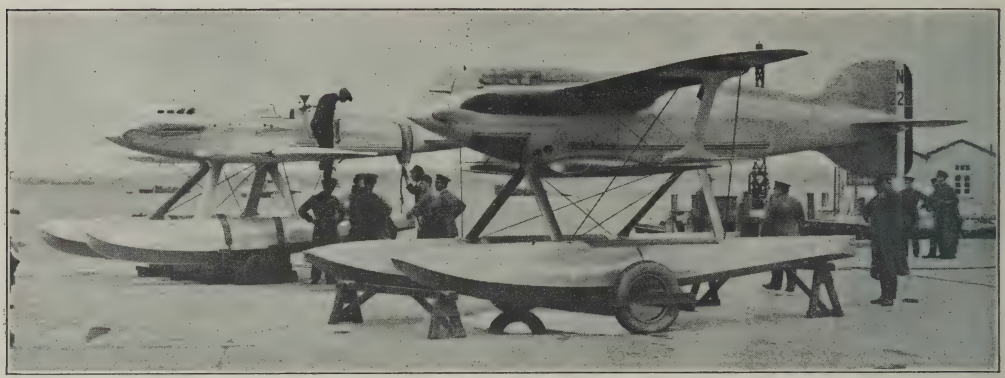
Two R.A.F. officers who have got possession of an amphibian flying-boat propose to fly to Venice to see the contest for the Schneider Trophy. They will have room for three passengers and a certain amount of luggage on the boat and will be glad to hear from anybody who would like to go with them and pay reasonably for doing so. The whole trip will probably take ten days or a fortnight. The exact duration can be arranged to suit the convenience of the passengers. Letters addressed to "X plus Y," c/o The Aeroplane, 175, Piccadilly, will be forwarded.



BALTIC-BOUND.—The Short Singapore (two Condors), our first all-metal multi-engined flying-boat, at Felixstowe, before starting for Copenhagen.


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All Classes of Aircraft.
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Vickers House, Broadway.
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THE SCHNEIDER CHALLENGERS IN BEING.



AT CALSHOT.—The Supermarine S.5 and the Gloster IV (Napier engines).

The visit to Calshot on Tuesday, Aug. 9, to which reference was made in last week's issue of The Aeroplane, was a thoroughly enjoyable affair. The thanks of all who were there is due to the Napier, Supermarine and Gloster firms who organised the outing for the enlightenment of the British Press. And, to give the Press its due, it dealt quite intelligently with what it saw.

Whatever may have been the state of the High Speed Flight in its early days there is no doubt that now it is a splendid example for any happy family. Everybody flies every machine quite cheerfully, including the Commanding Officer, who, one believes, is not supposed to be a racing pilot, but evidently believes that a commanding officer should know all about what he is commanding. An excellent way of going about the job.

The final selection of pilots for individual machines will not be made known till six days before the race, when, according to the rules, the pilot for each machine must be publicly nominated. Possibly one pilot or other may have been discovered to possess extraordinary skill in one direction or another, but if so the secret is being excellently kept within the team itself. One hears various rumours on this matter, but as a rule they are self-contradictory.

Apparently the pilots are finding no difficulty in cornering at the highest speeds. We have heard a good deal in the past about the effects of centrifugal force on the human anatomy and on the need for wearing special belts and so forth. But these pilots are apparently an unusually tough lot and do not seem to find any trouble at all.

There is no doubt about the speed of the machines. One R.A.F. staff officer who has nothing directly to do with the team but knows quite a lot about flying, gave a particularly graphic description of the speed. He said "You know, if you hear an aeroplane in the sky and look in the direction of the sound you can generally see the aeroplane. With these machines you don't. You have to look miles away in the direction you think the machine was going when you heard it."

This same astonishing speed has produced quite one of the best speed stories on record. One of the pilots was out practising early one morning up and down a straight course roughly between Southampton Docks and Cowes Roads, a matter of about ten miles. After he had done three circuits a message came to the Air Station at Calshot from Cowes asking the Officer Commanding to recall one of his aeroplanes which was hovering over Cowes and disturbing the morning rest of certain persons of importance.

The idea of an aeroplane "hovering" at a speed somewhere between 250 and 300 m.p.h. sounds humorous till one works it out. At such speeds a machine would be doing something between 4½ and 5 miles a minute, so that it would take less than 5 minutes to cover the 20 mile course.

The scream of the engine would be heard at either end of the course for something well over a minute while the machine was arriving, turning and going away again. And consequently at intervals of about 3½ minutes everybody in Cowes would hear that appalling row. So it would sound very like a machine circling round and round Cowes itself.

Obviously it would never strike anybody accustomed to yacht speeds that in the short quiet interval the machine had covered the 20 miles to Southampton and back.

At Calshot.

Unfortunately the visitors to Calshot were not able to see the machines in the air or on the water. But they had plenty of opportunity of inspecting them in detail. There are no secrets of any kind about them which anybody can give away. They get their performance by sheer refinement of detail. And both machines look even better in reality than they do in photographs.

The Supermarine, which looks white in a photograph, is actually a brilliant vision in bright royal blue and silver (that is to say, aluminium). But, of course, the blue shows white in the photographs.

The Gloster is a confection of dull blue of a lighter shade and gold, the wings, cylinder-cowls, tail and fin being gold and the body and floats blue, with gold motifs let in here



AT FELIXSTOWE.—The Bristow-Carter-Short Crusader (Bristol Mercury engine).

TITANINE

THE WORLD'S PREMIER

DOPE

THE KING'S CUP, 1927.

1. Capt. W. L. Hope - - - - D.H. "Moth."
2. Capt. W. J. McDonough - Westland "Widgeon."

THE GROSVENOR CHALLENGE CUP.

1. Mrs. S. C. Eliott-Lynn - - - D.H. "Moth."
2. Col. The Master of Sempill - Blackburn "Bluebird."
3. Mr. H. Brooklyn - - - Westland "Widgeon."

ALL USED "TITANINE."

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EMPIRE HOUSE,
175, PICCADILLY, LONDON, W.1.

TELEPHONES
Regent 4728,
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Codes: A.B.C. 5th Ed. and Bentleys.

and there. In this case, owing to the curious actinic vagaries of colours, the whole lot photographs a kind of dull grey.

Nothing definite can be said about the speeds of the machines, for there are no official figures available. And they would not be published if there were. But it is pretty safe to say, as one said last week, that the Supermarine with her floats is fast enough to beat the existing World's speed record for land-planes. And the Gloster is very much faster than the machine which won last year.

Italian Rumours.

Unfortunately there are no reliable rumours about the speed of the Italian machines. But they are also known to be a good deal faster than last year. So the competition ought to be close.

The only rumour which seems to have any bearing on the subject is that twelve special Fiat engines have been built for the Italian racers and that six of them have been cracked up in practice. Anybody who knows the products of the Fiat factory knows that there is nothing more reliable in the World among automobiles. So one can only imagine that, if this story is true, the six engines which have cracked up have simply been over-driven in the effort to get more revolutions out of them.

The Gloster.

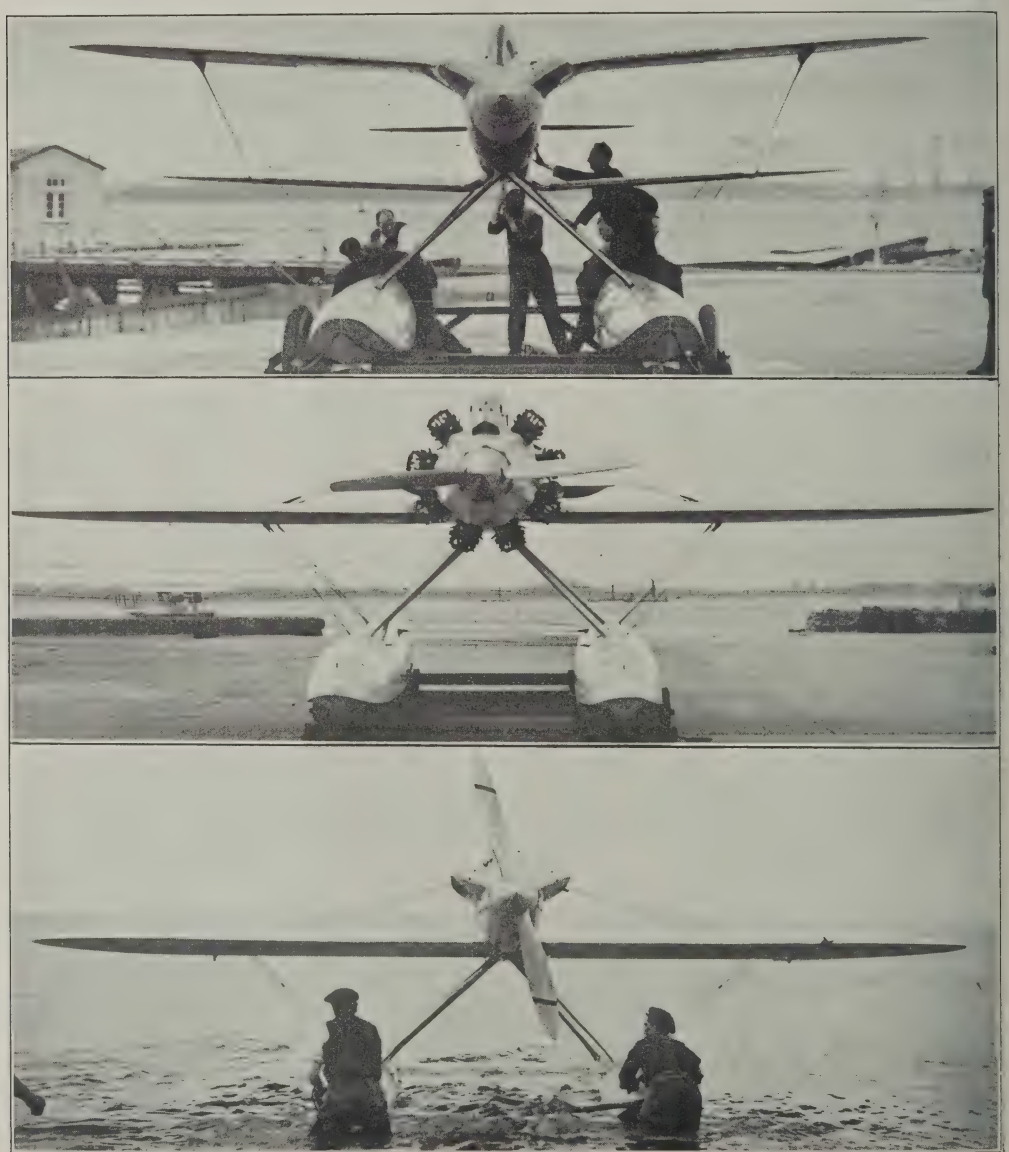
In last week's issue of The Aeroplane there was published so much information as is permissible about the Supermarine S.5 and about the Napier racing engine. But at the moment, information was lacking about the Gloster. Such information as is available and permissible is as follows :—

The Gloster Napier IV is a racing seaplane of the biplane type fitted with a special Napier Lion engine.

The fuselage is a laminated spruce monocoque with a weldless steel-tube engine-mounting carrying the Napier engine.

Removable petrol-tanks are carried in the fuselage, the oil tank and main cooler being housed under the engine and forming part of the fairing. Within the fairing which runs from the middle cylinder-block and the windscreen is housed the water-header tank and the petrol gravity tank. Wing radiators of Gloster design are fitted to the top and bottom planes.

The wings are of the multi-spar type entirely covered with laminated spruce, waterproof glue being used for all the



HEAD RESISTANCE.—A study in frontal areas,—the Gloster IV, the Crusader and the Supermarine S.5.

THE WESTLAND WIDGEON



THE IDEAL LIGHT AEROPLANE

KING'S CUP.

Westland Widgeon III, **2nd** & **5th.**

NOTTINGHAM FLYING MEETING.—PELHAM STAKES.

Westland Widgeon (Standard Machine with Cirrus Engine), **FIRST.**

GROSVENOR CUP.

Westland Widgeon (Genet Engine), **3rd.**

THE EVIDENCE OF THE KING'S CUP RACE.—

11 Light Aeroplanes started. 3 only completed the course. Of these **2 Westland Widgeons started** and **2 completed the course,** and in order of average speeds over the course their positions were **1st** and **2nd.**
The same machines were the ones which took part in the PELHAM STAKES and the GROSVENOR CUP.

CONCLUSION.—

The Westland Widgeon III is unrivalled for speed and reliability under the most adverse weather conditions.

NOTE THESE POINTS :—

1. Very strongly built and substantial construction for standing up to hard work.
2. Stout under-carriage, steel springs and Ferodo dampers.
3. Wings braced with struts; no rigging to need adjustment; cannot get out of truth.
4. Excellent view for both pilot and passenger owing to parasol construction.
5. All machines furnished with aerobatic certificate of airworthiness for total weight of 1,400 lb. allowing for passenger, pilot and luggage.
6. Can be fitted with dual control.
7. Petrol consumption—20 miles per gallon.
8. Wings fold for garaging in small space.

Can be fitted with Cirrus II or Genet Engine.

PRICE (with Cirrus II Engine) **£750.** Ready to Fly away from Works.

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YEOVIL.

Telegrams: "Aircraft, 141, Yeovil." Telephone: Yeovil No. 141.

woodwork. All controls are internal, and the elevator and rudder controls are fitted with a variable control device giving a ratio of 2 to 3 for small movements, grading off to a ratio of 3 to 2 for the last movements of the controls.

The interplane struts are built up of duralumin forgings. The duralumin floats are of Gloster design and construction and particular care has been taken to obtain a good streamline shape without affecting their seaworthy qualities.

The airscrew is of the detachable-blade type of Gloster design and construction, the blades being machined to their correct pitch and contour from a solid duralumin forging in a special machine.

At Felixstowe.

On Thursday, Aug. 11, the Crusader (Bristol Mercury engine), built by Short Bros. to the designs of Mr. Carter under the ægis of Lt.-Col. Bristow, had a private view of its own at Felixstowe. Mr. Carter conceived the designs for the Crusader and submitted the necessary drawings to the Air Ministry some considerable time ago. He also showed the scheme for the machine to Mr. Fedden, of the Bristol Co., who evidently approved of it, as suitable for the Mercury. Thereafter, through Sir Henry White Smith, with whom he was in touch after leaving the Hawker Co., Mr. Carter became allied with Lt.-Col. Bristow, who took charge of the commercial side of the venture, and arranged for the machine to be built by Short Bros. Evidently the result is a credit to all concerned.

Capt. W. H. Sayers went down to interview it on behalf of The Aeroplane and his description is as follows :—

The Crusader, which is the sixth machine and the third type of machine which will go to Venice as one of the possible British starters in the race for the Schneider Cup, was shown to representatives of the Press as a separate exhibit on Thursday, Aug. 11. The circumstance was fortunate, because the Crusader is interesting quite apart from its chances in the race itself.

The Crusader was designed by Mr. W. G. Carter, as an attempt to produce a really high-speed machine with an engine of the air-cooled radial type. The machine itself was built by Short Bros., at Rochester, and the engine—known as the Mercury—is the latest product of the Bristol Company.

So far it is not claimed that a speed equal to that attained by the racing machines with water-cooled engines has been attained by the Crusader. It has however reached a speed which would have been thought impossible for any seaplane a few years ago, and given a reasonable opportunity for development there seems quite good grounds for hoping that the designers will be able still further to reduce the gap between this machine and its water-cooled rivals.

The machine itself is a monoplane of the low-wing type, and of very small size. The wings are of curious plan form, having their greatest chord at about halfway from body to tip, and are roughly elliptic beyond this greatest chord. They are built on wooden box spars, and covered with mahogany veneer.

The body—circular in section—is a wooden monocoque fitted with a steel-tube engine-mounting forward.

The floats—each practically as long as the whole body—are of duralumin, and these were designed and built by Short Bros. They are exceedingly effective on the water and have a surprisingly low air resistance.

The Mercury engine is a nine-cylinder radial, somewhat smaller in over-all diameter than the famous Jupiter and approximately the same total weight—which is believed to develop approximately twice the power of the Jupiter.

This engine has given extraordinarily little trouble considering that it is of a new type and is being pushed up to the limit of its output.

Such troubles as have occurred have been troubles due to the impossibility of predicting the nature of air flow round the nose of the machine and the cylinder heads at the very high speeds attained. This has led to trouble with air intakes, and with the design of engine-cowling, troubles which obviously can only be overcome by extended trial.

The outstanding advantage of the air-cooled engine for high-performance machines is its low weight per h.p. In the case of the Mercury engine the weight per h.p. is roughly one-half of the lowest previously attained, and as a result the Crusader has a complete weight per unit of power which is less than that of many distinctly light power plants of the water-cooled type,—even without aeroplanes attached.

The whole machine is small, and, being small, is sturdy. At the same time it has a phenomenal take-off—a very important point in very high-speed machines, particularly if they be seaplanes. And for obvious reasons it is possible, given a low weight per h.p., to design for very high speeds with a smaller sacrifice in climb and ceiling than would be necessary if one were confined to a heavier type of engine and aeroplane.

Thus the Crusader—even if her speed is too low successfully to compete with her water-cooled rivals as a racer pure and simple—is a useful sign-post pointing the way to the production of fighters which will combine ultra-high speeds with a good all-round behaviour.

Incidentally it is worth recording that the Crusader is a remarkably pleasant machine to fly, and that no single modification to any of her controls has been required to achieve this result. This of course speaks highly for Mr. Carter's original design.

Transport and Organisation.

A statement issued by the Air Ministry to those who visited Calshot said that some of the machines were to leave Southampton about August 15 in an Admiralty collier which would go direct to Venice, arriving there about Sept. 1, but one has been told that only one or two will go by it. The remainder are to leave London about Aug. 25 and will be transshipped at Malta to H.M. Aircraft-Carrier *Eagle*, which is due to arrive in Venice about Sept. 6.

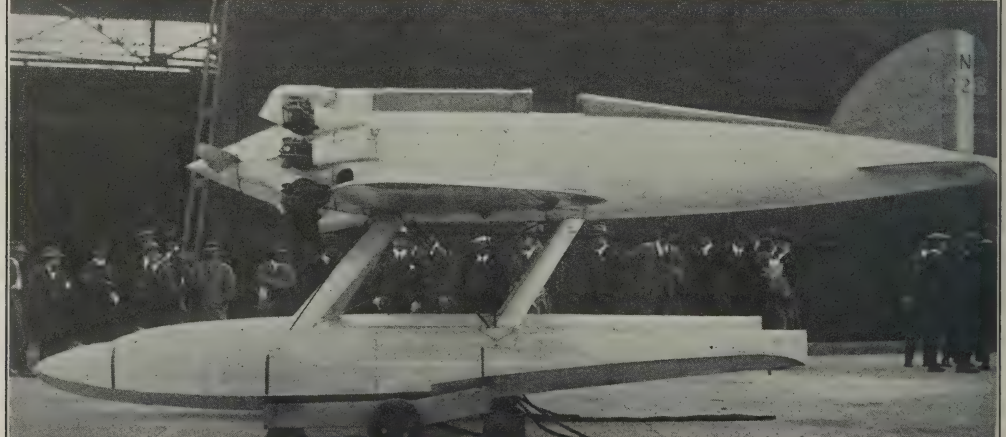
The majority of officers and airmen will travel overland and arrive in Venice about Sept. 1; the remainder will go later.

The Headquarters of the British team will be the Excelsior Hotel on the Lido.

The aircraft will be housed at the Italian seaplane station at Venice and the R.A.F. airmen and the firm's mechanics will also stay at that station. The R.A.F. will provide its own guards.

Flying Practice.

The amount of flying practice will depend, to a large extent, on the suitability of weather conditions. If these are favourable it is intended that the members of the Flying Team will practice in Italian waters. So that pilots may become thoroughly acquainted with the course, a Fairey Fly-



THE CRUSADER.—Produced under the ægis of Lt.-Col. Bristow at the Short factory to Mr. Carter's design, with a Bristol Mercury engine.—("*Aeroplane*" *photograph.*)

THE KING'S CUP AIR RACE

July 30th, 1927.

1st—Mr. W. L. Hope's "MOTH" (Mr. W. L. Hope.)

2nd—Mr. R. A. Bruce's "WIDGEON." (Capt. W. J. McDonough.)

3rd—Mr. Douglas Vickers' "VIXEN." (Ft.-Lieut. E. R. C. Scholefield.)

GROSVENOR CHALLENGE CUP

August 1st, 1927.

1st—Mrs. S. C. Eliott-Lynn's "MOTH." (Mrs. S. C. Eliott-Lynn.)

2nd—Col. The Master of Sempill's "BLUE BIRD." (Col. The Master of Sempill.)

3rd—Mr. Harold Brooklyn's "WIDGEON," (Mr. Harold Brooklyn.)

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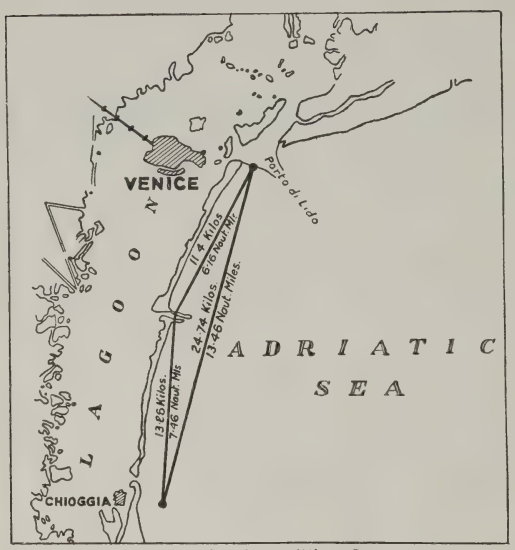
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The Schneider Competition Course.

catcher seaplane will be taken on board H.M.S. *Eagle* from Malta as well as the racing machines.

H.M.S. *Eagle* will remain till the race is over and four British Destroyers will also be present.

Arrangements have been made by the Italian authorities for C.M.B.'s to patrol the course and keep it clear during flying practices as well as on the day of the race itself.

THE TEAM.

Some biographical details of those who will be responsible for our effort to capture the Schneider Trophy will doubtless interest many readers of THE AEROPLANE.

Sq. Ldr. L. H. Slatter, O.B.E., D.S.C., D.F.C., R.A.F., was born in 1894 in Durban, South Africa, and was educated at Dale and Selbourne Colleges, South Africa, and later at the Battersea Polytechnic. He joined the R.N.A.S. (Armoured Car Division) in November, 1914, in which he served until 1915 as a Petty Officer Mechanic.

After a short period of commissioned service with the R.N.V.R. he became an officer in the R.N.A.S. in 1916. During the next two years, until the Armistice, he was constantly engaged in flying operations both in the Dover and Dunkirk areas. Later he served in South Russia.

He was promoted Flight Lieutenant in the R.N.A.S. in November, 1917, became Captain, R.A.F., on the fusion taking place and was granted a permanent commission as a Flight Lieutenant in August, 1919. He was promoted Squadron Leader in January, 1924.

His O.B.E. was given for distinguished service in South Russia; the D.S.C. for conspicuous gallantry and skill on many occasions; a bar to the D.S.C. for bombing Ostend seaplane station from 400 feet above the ground in spite of anti-aircraft fire; and his D.F.C. was awarded for distinguished flying service.

He has been in charge of the Flying Team during the past few months and has been responsible for training in the high-speed practice seaplanes as well as in the racing machines.

Flt. Lt. S. M. Kinkead, D.S.O., D.S.C., D.F.C., R.A.F., was born in February, 1897, and is also a South African. He was educated at the High School, Johannesburg, and at the Marist College. He joined the R.N.A.S. as a Flight Sub-Lieut. in September, 1915. During the war he saw flying service in the Dardanelles for a year and in the Dunkirk area during 1917-18.

He was responsible for the ground organisation on the Northern Sector in connection with the first Cairo—Cape flight carried out by R.A.F. Fairey IIID aircraft in 1925. Recently he has been an instructor at No. 5 Flying Training School, Sealand, Chester.

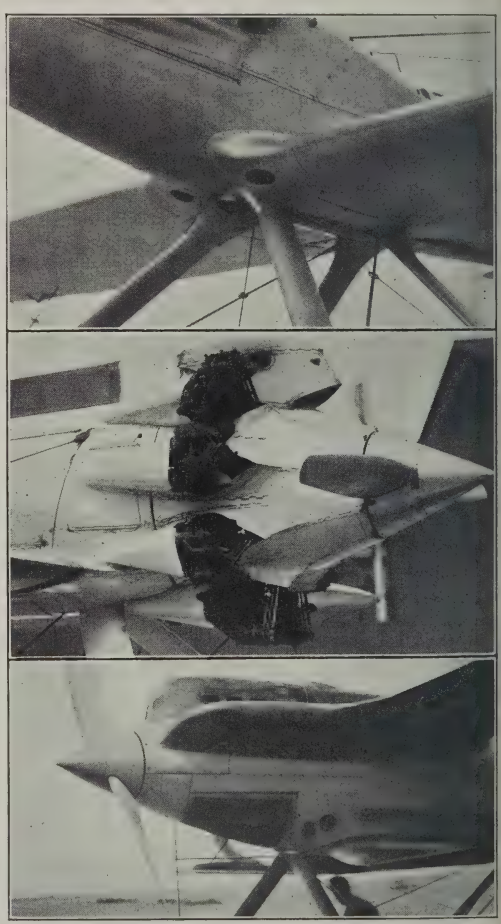
He was promoted Flight Lieutenant, R.N.A.S., in June, 1917, became Captain, R.A.F., on the formation of the Royal Air Force, was granted a permanent commission as Flying Officer in August, 1919, and was promoted Flight Lieutenant in January, 1922.

The services for which his decorations have been given are :—D.S.O. : Attacked and dispersed Cavalry Division in South Russia. D.S.C. : Very conspicuous gallantry and skill in face of enemy in aerial combats. Bar to D.S.C. : Attacked and brought down an Albatros machine. D.F.C. : For attacking enemy formations superior in numbers. Bar to D.F.C. : Engaged and dispersed large party of enemy troops. Flt. Lt. S. N. Webster, A.F.C., R.A.F., was born in 1900 in Walsall and was educated in that town. He joined the R.A.F. as a Second Lieut. in September, 1918, after having previously served in the Infantry as a private. He was granted a short service commission as a Flying Officer in December, 1919, and a permanent commission in 1924. He was promoted Flight Lieut. in July, 1927. Previously he had been awarded the Air Force Cross.

Flt. Lt. O. E. Worsley, R.A.F., was born in 1898, in Kensington, and was educated at Merton House and Westbourne Schools. He joined the R.N.A.S. as a mechanic in 1914 and became an officer in January, 1917. He was promoted Flight Sub-Lieut. in June, 1917, and a Lieutenant, R.A.F., on the formation of the Air Force. He served in the Mediterranean during 1918 and was specially mentioned in despatches. He was out of the Service between 1919 and 1921, but returned as a short service officer in July of that year, and was granted a permanent commission with the same rank early in 1925. He was promoted Flight Lieutenant in the July promotion.

Flg. Off. H. M. Schofield, R.A.F., was born in 1899 in Battersea, and was educated at Secondary Schools in that district. He joined the R.N.A.S. as an officer in 1917 and served with the Royal Air Force in the Adriatic during 1918 and 1919. After the war he left the Service, but returned as a short service commission officer in 1923 as a Pilot Officer and was promoted Flying Officer in November, 1924.

Flg. Off. T. H. Moon, R.A.F., the technical officer with the team, was a Chief Petty Officer on the engineering side in the R.N.A.S when war broke out and was made a warrant officer in 1917 when the fusion took place in 1918. He became a Second Lieut., R.A.F., on technical duties and was later promoted Flying Officer. He served throughout the war with the flying services, and has seen service with the Royal Air Force in Egypt, Iraq, and the Middle East.



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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Aug. 14.

Flying time 25 hr. 25 min.

Instructors.—Messrs. F. G. M. Sparks and S. L. F. St. Barbe. *Instruction.*—J. H. Veasey, J. H. Pearcy, W. L. M. O'Connor, R. G. Whalley, E. V. Brodrick, Col. Farfan, E. L. Clarke, Dr. Cook, P. W. Hoare, Miss Spooner, Miss O'Brien, R. P. Cooper, L. C. Davey, H. F. Wight, G. M. Randall, W. J. Bernhard, G. H. Saxon-Mills, W. M. Gossip, F. C. Fisher, W. Hay. *Solos.*—Miss Spooner, Miss O'Brien, O. J. Tapper, E. T. Symons, W. Hay, E. L. D. Moore, J. J. Hofer, E. E. Stammers, R. P. Cooper, L. C. Davey, S. O. Bradshaw. *Passengers.*—E. V. Haslam, A. Hay, Miss Hay, C. F. Watts, W. R. Simeons.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Aug. 14.

Flying time 9 hr. 50 min. *Dual* 3 hr. 20 min. *Solo* 2 hr. 50 min. *Joy-rides* 3 hr. 25 min. *Tests* 15 min.

Dual with Mr. Brown.—Messrs. Fisher, Browning, Crossthwaite, Nelson, Scholes, Ward, Allott, Caldecot, Meades. *Solo.*—Messrs. Anderson, Caldecot, Rowley, Harber, Lacayo. *Joy-rides with Mr. Brown.*—Messrs. Lowe, Cohen, Riley, West. *With Mr. Scholes.*—Mr. Kenyon, Mrs. Mills. *With Mr. Costa.*—Mr. Confinis. *With Mr. Lacayo.*—Mr. Hartley. *With Mr. Leeming.*—Mr. Heys.

The aerodrome will re-open on Saturday, Aug. 20, having been closed for nine days.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Aug. 7.

Flying time 33 hr. 35 min. *Instruction* with Mr. Parkinson.—Messrs. Thirlwell, Gibson, De Pledge, L. Middleton, Davey, A. Bell. *Solos.*—Mrs. Heslop, Miss Leathart, Dr. Dixon, Messrs. C. Thompson, Mathews, E. B. Ellis, H. Ellis, Hanney, D. Wilson, Jewett, Davey, Bainbridge, N. S. Todd, Maxwell, Elmes, J. A. T. Middleton, Capt. Milburn. *Passengers.—With Mr. C. Thompson*—Mrs. Fairless and Mr. Knox. *With Miss Leathart*—Mrs. Leathart, Mr. Elmes. *With Mr. A. Bell*—Miss Bulmer and Miss Klyver.

Mr. H. O. Pargeter and Mr. L. C. Davey passed the tests for their "A" Licences during the week, both putting up excellent shows.

Report for week ending Aug. 14.

Flying time 41 hr. 40 min. *Dual* 13 hr. 15 min. *Solo* 28 hr. 25 min. *Instruction with Mr. Parkinson.*—Mrs. Heslop, Messrs. Maxwell, L. Middleton, Stawart, Wardill, McDougall, J. M. Davidson, Rasmussen, C. E. Shaw, J. M. Kennedy, De Pledge, H. Ellis, Turnbull, D. Wilson, Thirlwell, Sadler, Davey, Fairless, P. L. Lawson. *Solos.*—Mrs. Heslop, Miss Leathart, Messrs. Elmes, H. Ellis, W. B. Ellis, Stawart, Maxwell, Wardill, Jewett, McDougall, J. M. Kennedy, Turnbull, C. Thompson, D. Wilson, Thirlwell, Davey, Mathews, Dr. Dixon, and Flg. Off. Dawson. *Passengers.—With Dr. Dixon*—Miss England, Mr. J. Bell. *With Mr. A. Bell*—Mr. J. Bell. *With Mr. Turnbull*—Miss Klyver. *With Flg. Off. Dawson*—Mrs. Dawson. *With Mr. Elmes*—Mrs. Basil Elmes and Miss Elmes. *With Mr. C. Thompson*—Mrs. Fairless, Mrs. Heslop, Mr. Luckman, Mr. Bulmer and Mr. Grundy.

The following members passed the qualifying tests for their "A" Licences:—Mr. D. C. Maxwell, Mrs. Heslop, Mr. Jewett and Mr. D. Wilson, the last three all on the 12th, and all did the tests in a very satisfactory manner.

Mrs. Heslop is the second lady member to obtain Licence "A" with the Club. Miss Leathart, our first lady pilot, flies very regularly and consistently and there is every promise that our lady members will continue to set a good example to some of the male pilots who appear to have become somewhat lethargic after obtaining their licences. All praise, of course, to the still large proportion who continue to fly regularly.

A certain amount of brightening up is going on and the opportunity has been taken to paint the word "Cramlington" on the roof of the small (Moth) hangar. This can be seen from the air quite a distance away.

It will be of further interest to Royal Air Force Pilots, Club Members and Private Owners, who may pass this way, and who are always welcomed, to know that two petrol pumps are installed on the aerodrome, and quick service can be relied upon. Pratts No. 1 and B.P. aviation mixture is stocked.

We have had the pleasure recently of loaning a wheel and cylinder heads to the Yorkshire Club, in cases of emergency. We know that the Yorkshire Club will be happy to assist us in future as they have done on occasions in the past, but wonder how we will manage to fit Bluebird wings and undercarriages to our Moths should we ever need such parts in a hurry. Perhaps we can between us now fit up one Renault Avro.

The Club's Flying Meeting has now been fixed for Sept. 24.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending July 31.

Flying time—Total 18 hr: Dual 9 hr. 20 min. Solo 6 hr. 55 min. Joy-rides 35 min. Tests 1 hr. 10 min.

Dual Instruction with Mr. Thomson.—Mrs. Aitken Dick, Lt. Mandeville, R.N., Master Waite, Messrs. Evans, Andreae, Williamson, Dobson, Brewster, Wells, MacCracken, Stamford, Hagan, Boileau, Snowden, Baynes, Whittle, Southcliffe, Cripps and Everett. *Solos.*—Don Juan de la Cierva, Messrs. Shepherd, Dobson, Fagan, Parker, Symmons and A. N. Other. *Joy-rides.*—Major Ross White, The Hon. H. R. Grosvenor, Dr. Keller Frost, Mr. Lovat, Mr. Alexander and Miss Myers.

No instruction on Wednesday and Saturday owing to gales, but in spite of the gale on Saturday Mr. Thomson with the Secretary, Major Ross White, flew over Calshot where the Southampton Yacht Club were holding their Annual Regatta—and saluted their friends of the Club.

Mr. Dobson made an excellent first solo on Friday.

Report for week ending Aug. 7.

Flying time—Total 23 hr.: Dual 12 hr. 25 min. Solo 8 hr. 10 min. Joy-rides 1 hr. 35 min. Tests 50 min.

Dual instruction with Mr. Thomson.—Miss Horne, Lt. Graham, R.N., Lt.-Cdr. Woodhouse, Cdr. Hunt, Capt. Molyneux, Messrs. Evans, Brewster, Wells, Stanford, Dunnings, Mellor, Snowden, Williamson, Boilean, Dobson, Crook, Everett, Courtney *Solo.*—Flg. Off. Southey, Lt. Graham, R.N., Don Juan de la Cierva, The Hon. H. R. Grosvenor, Messrs. Sanders Clark, Mellor, Dobson, Fry, Symmons, Parker and Nicholson. *Joy-rides.*—Mrs. Thomson, Mrs. Brewster, Mrs. Crook, Misses Clappen, Davis and Taylor, Messrs. Bailey, Shepherd, Lovat and Bathurst.

Mr. A. R. Mellor made an excellent first solo flight on Wednesday, having first been collected by air from Cowes.

The Club was open on Monday, 1st (Bank Holiday), but no flying was possible, owing to rain The Club will be closed for 8 days from Monday, Aug. 8 to Monday, Aug. 15, to give the staff a well-earned rest. There was no flying on Friday, 5th, as the Chief Instructor had to go to London for his half-yearly medical examination.

On Thursday the Club was visited by Dr. Murton on his Moth. He dropped in for lunch at the Club on his way from Bournemouth to Dover. Mr. Olley, of Imperial Airways, descended on us in a Vickers Vulcan on Sunday. He had with him as passengers Miss Enid Stamp Taylor, Mr. Leslie Henson and Mr and Mrs. Jack Hylton, all on their way to Deauville, via Southampton and a Supermarine.

The Yorkshire Aeroplane Club.

[D. M. Coles, Sherburn Aerodrome, Yorks.]

Report for week ending Aug. 13.

Flying time 21 hr. 50 min. *Dual with Mr. Beck* 2 hr. 5 min. *Dual with Mr. Coles* 7 hr. 55 min. *Joy-rides* 1 hr. 25 min. *Solo* 6 hr. 50 min. *Tests* 35 min. *Cross-country* 3 hr.

Instruction with Mr. Beck.—Miss Woodhead, Messrs. Hirst, Humphries, Bailey, Dujardin. *Instruction with Mr. Coles.*—Miss Watson, Miss Woodhead, Messrs. Dujardin, Fitton, Leetham, Crouther, Ellison, Yeomans, Bailey, Little, Mason. *Solos.*—Miss Woodhead, Messrs. Mann, Wilson, Brackenbury, Thomson, Fielden.

Rain has again been the chief performer at Sherburn during the week, but nevertheless flying hours to the tune of 21 were put in. We have temporarily lost the loan of Capt. Milburn's machine as it has been flown down to Stag Lane by Mr. Beck for a general look over. Our other Moth, which has been away for overhaul, is expected back shortly, complete with new wings, tail-plane, undercarriage, and fuselage. We understand that the switch in the rear cockpit did not need renewing.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Aug. 6.

Flying time 7 hr. 2 min.

Dual instruction with Mr. McDonough.—Capt. J. E. Brewin, R. D. Bednell, G. Robson, N. Crane, R. Cazalet.

Mr. Cazalet was launched solo on Saturday and put up a most excellent show.

Members of the Club are very proud of the distinction achieved by their Chief Instructor, Mr. McDonough, in putting up such an excellent performance in the King's Cup Race by winning second place, and further by his success in winning the Pelham Handicap.

Report for week ending Aug. 13.

Flying time 9 hr. 26 min. *Instruction.*—N. Crand, J. C. Chaytor, G. Robson, R. L. Brinton, R. D. Bednell, Capt. J. Brewin. *Solos.*—E. R. King, H. J. Willis, R. L. Jackson, S. H. Smith, E. J. Brighton.

On Wednesday, Mr. McDonough flew EBLT to Stag Lane for annual overhaul for renewal of Certificate of Airworthiness.

The Tunbridge Wells Light Aeroplane Club.

[Acting Hon. Sec.: B. D. Winser, St. John's Road, Tunbridge Wells.]

On Saturday next, Aug. 20, a demonstration of the flying of light aeroplanes will be given at the Frant Road ground at Tunbridge Wells. The demonstration has been organised by the Tunbridge Wells Light Aeroplane Club, the Secretary of which is Mr. B. D. Winser, from whom further particulars and cards of admission may be obtained.

A well-known pilot will bring a D.H. Moth from London and will give a series of exhibition flights. It is hoped that Sir Robert Gower (the President of the Club), Alderman Westbrook (the Mayor), and many other well-known people will be present. Admission to the Frant Road ground is by invitation only. And the public can view the flying from the Recreation Ground adjoining.

Mr. Winser has been working for the last eighteen months at the idea of a Club for Tunbridge Wells and Central Kent generally. Some three months ago he enlisted the sympathies of Sir Robert Gower, O.B.E., M.P., and as a result considerable progress has been made.

Mr. Winser says that he has up to the present collected about eighty members at two guineas and three guineas a head which provides enough money to hire a ground and put up a Club-house. There are plenty of young men, at present owners of sporting motor-cars and T.T. motor-cycles, who are very keen on flying, and now that they are convinced that they can fly at ordinary Club rates without spending a fortune, there is every prospect of their joining the Club.

A Club machine is to be acquired by a Company and covered by insurance, after which it is to be run at the regular Club rates, so as to make it pay for its own upkeep. The scheme seems good and one hopes that the meeting on Saturday will be supported by any sympathisers with the Light Aeroplane Club movement, or makers of light aeroplanes with business in view, who can spare a machine for the day.—C. G. G.

THE ZURICH AIR MEETING.

On Aug. 14 the International Air Meeting at Zurich opened, at which Swiss, Italian, Polish, Czecho-Slovak and Dutch military and civil pilots are competing.

Sir Alan Cobham carrying the Comte Henri de la Vaulx as passenger arrived by air. Both Sir Alan and General the Marchese de Pinedo are to be presented with the gold medal of the Swiss Aero Club for their services to aviation.

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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 29; Tuesday, 26; Wednesday, 24; Thursday, 28; Friday, 34; Saturday, 32; Sunday, 13.

IMPERIAL AIRWAYS LTD. :
London—Paris—Zurich; London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin : Machines 84, passengers 562, freight 20 tons.

AIR UNION :
Paris—London : Machines 44, passengers 151, freight 14 tons.

K.L.M. :
Amsterdam—Rotterdam—London : Machines 26, passengers 179, freight 3 tons.

SABENA :
Brussels—London : Machines 12, passengers 83.

DEUTSCHE LUFTHANSA AG. :
Berlin—London : Machines 14, passengers 90.

PRIVATE :
Machines 3, passengers 3.

Total number of trips by British machines, 87, carrying 565 passengers. Foreign Machines, 96, carrying 503 passengers.

COMPARATIVE FIGURES.

Week ending Aug. 13 :
Machines, 183; Passengers, 1,068; Crews, 348; Total personnel, 1,416.
Corresponding week, 1926 :
Machines, 183; Passengers, 1,313; Crews, 226; Total personnel, 1,539.
Corresponding week, 1925 :
Machines, 176; Passengers, 1,011; Crews, 248; Total personnel, 1,259.
Corresponding week 1924 :
Machines, 176; Passengers, 904; Crews, 223; Total personnel, 1,127.
Corresponding week, 1923 :
Machines, 144; Passengers, 724; Crews, 231; Total personnel, 955.
Corresponding week, 1922 :
Machines, 176; Passengers, 642; Crews, 303; Total personnel, 945.
Corresponding week, 1921 :
Machines, 114; Passengers, 437; Crews, 140; Total personnel, 577.
Corresponding week, 1920 :
Machines, 123; Passengers, 262; Crews, 154; Total personnel, 416.

Croydon Notes.

Air Union have now two of the Lioré and Olivier machines with two Jupiter engines. One completely equipped is giving a restaurant car service, leaving Paris at noon with passengers and lunch, and returning at 4 p.m., with passengers and tea. The other with a bare fuselage is running trials with freight and ballast, but will shortly be equipped like her sister.

These machines are very reminiscent of the Goliath in their general squareness of outline. They have a smaller span than that familiar type, and the body nearly fills the gap between the wings.

They are mainly built of duralumin. The fuselage is like the usual wood and wire type, with square duralumin tubes taking the place of the timber members. These tubes, which are about two inches square, have vast numbers of lightening holes drilled in them.

The outer surface of the body is covered with fabric, and the cabin (in the passenger machine) is panelled in veneer, giving a double skin in the passenger space.

The pilots' cockpit is in the top of the body just ahead of the wings. There is one compartment ahead of this which is used as a steward's pantry, and another behind the cockpit. This last is fitted with three tables—each seating four in pairs, face to face.

The lunch supplied on the Paris—London trip sounds very attractive when one is on solid ground. An apocryphal story relates that a passenger asked his opinion of it after trial replied—"He was a very good lunch but I cannot hold him down." Experience however suggests that by keeping passengers from worrying about being air-borne, the lunch very greatly reduces the risk of air-sickness. Sea-faring people will realise that this is very likely to be true in a good many cases.

K.L.M. daily carry a number of parcels of London newspapers to Rotterdam, whence they proceed—still by K.L.M.—to Copenhagen. The London staff of K.L.M. have no direct concern with the service beyond Rotterdam, but they hear all about it from the newspaper offices if the papers fail to arrive.

Despite the abnormal weather of the last few months this has occurred only on three days this (alleged) Summer, and the newspapers themselves are so pleased that they meditate continuing to despatch papers by air to the Baltic during the coming Winter, as the weather then cannot be worse and may be better.

Quite a large business is now done by the various air lines in carrying newspapers to and from the Continent, and evidently the newspaper people are well satisfied with the results.

The transport of goods by air also evidently fills a need, for the volume of air-borne freight into and out of Croydon is steadily increasing.

On the other hand, air mail business makes little progress. If newspapers and goods can save time to a valuable extent in transport by using the air lines, why does the air mail not flourish?

The answer seems to be because the newspaper people attend to the transport of their goods to and from terminal aerodromes, and goods are delivered to and removed from the aerodrome either by those concerned with them, or by a properly-organised transport agency. Mails into and out of England however are handled by the Post Office—which displays no marked enthusiasm for air mails.—W. H. S.

"I Have Paid, But—"

(A LAST CROYDON NOTE.)

During the past week or so one has had numerous inquiries as to why one is no longer doing the Croydon Notes in THE AEROPLANE. There are several reasons for this. The first and most important is that the purely commercial side of THE AEROPLANE, for which one is responsible, has been gradually taking up more and more of one's time to the exclusion of other matters.

The Aircraft Industry is beginning to regard one more and more in that light, or darkness, in which the taxpayer regards Mr. Churchill, and at one's coming they hide their moneybags. At the moment Croydon to oneself is rather in the position of an almshouse to Mr. Churchill. In due course one hopes that one will find Croydon a very happy hunting ground.

On the other hand, Civil Aviation is just getting to the stage at which its finances, although not big enough to be raided, are getting interesting. There are numerous figures with which one can juggle and so they come into the province of Capt. W. H. Sayers, who is now responsible for Croydon Notes.

It is with the greatest regret that one has given up these notes for which one has now been responsible for seven years. But as one probably said in the first note, the first seven years would be the worst.

As to the rhymes and parodies which seem to have been popular there are some of these already in type in "the overmatter bag," which is a sort of undiscovered country from whose bourne no traveller returns, and really ranks with but above the Editorial wastepaper basket. These may appear in the next seven years.

One hopes to visit Croydon frequently in the future in a purely private capacity, unless any wealthy concerns appear. These one will visit officially. But in future for the misdeeds of THE AEROPLANE vent your wrath on W. H. S. and not on—G. D.

AIRMINDEDNESS IN HOLLAND.

The K.L.M., evidently emboldened by Mr. van Lear-Black's flight, has sent definite proposals to the Dutch Government for a mail air service between Holland and the East Indies.

Eight machines would be employed, one leaving each end once a week. The P.O. would have to guarantee a certain quantity of mail for each flight.

The calculation is that an extra rate of 10d. (50 cents) per letter would produce a payment of £3 14s. per kilogram of mail. The K.L.M. considers the proposition likely to pay, according to the results of the Toulouse—Casablanca and the Cairo—Baghdad lines.

The K.L.M. is negotiating with the Fokker works in Amsterdam for the purchase of five F.VIII aeroplanes (Jupiter engines) for 15 passengers, such as they are now using (one). They would need them next Spring.

This Summer the K.L.M. traffic with London has largely increased, thirty to forty passengers a day are now being carried on this line and numbers of would-be passengers are left behind every day.

Realising that the Dutch public takes a very real interest in Aviation and in the activities of its National Air Transport Company, the K.L.M. takes every opportunity to spread airmindedness and incidentally profits not a little in so doing.

Waalhaven, the air port of Rotterdam, for example makes a charge for admission to the Aerodrome, and, on Sunday, July 10, admitted no less than 2,956 persons.

Two K.L.M. machines were kept busy all the morning taking parties over the pier and promenade of Scheveningen, and in all 161 joy-riders went up from Waalhaven on that day.

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You are at liberty to use this letter for any purpose you may wish. With many thanks,

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Yours faithfully,

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Managing Director.

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DIEU ET MON DROIT

BY APPOINTMENT TO HIS MAJESTY THE KING

KING'S CUP AIR RACE, 1927.

FASTEST TIME OF THE DAY, 141.6 M.P.H., by VICKERS "VIXEN III."

Entrant: DOUGLAS VICKERS. Pilot: Flight Lieut. E. R. C. SCHOLEFIELD.

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On the same Sunday, Schipol (Amsterdam) had 225 short flight passengers over the city.

Both Schiphol and Rotterdam Aerodrome restaurants are under the management of K.L.M., so that the Dutch taxpayer who comes to either aerodrome is sure of a warm welcome from the K.L.M., whether he comes to fly or merely to eat, drink and look on.

The successes of the Fokker machines this year have made an impression on even the hard-headed Dutch and, a correspondent says, before long every Rotterdammer who can pay the fl. 6 demanded will have had a flight over the town.

Last Sunday, July 31, the 50,000th visitor to the Aerodrome (Waalhaven) this year was a simple little woman who, with her two little boys, was given a free ride, to their huge joy. "All the street"—as they say in Holland—is going there next Sunday, as the papers say that the 60,000 will be reached by then (so great has been the joy-riding this week) and there will be another free ride for somebody! It all shows that the common people trust the K.L.M. and the Fokker planes.

THE GERMAN ATLANTIC ATTEMPT.

On Aug. 14, two Junkers J.33 monoplanes, the *Europa* (D-1197) and the *Bremen* (D-1167), left Dessau in attempts to fly to America.

The *Europa*, which recently broke the World's Duration record, piloted by Herren Risticz and Edzard and carrying as passenger, Mr. H. Knickerbocker, an American newspaper representative, took off at 18.24 hours and the *Bremen*, piloted by Herren Loose and Köhl, and carrying as passenger Baron von Hünefeld, took off four minutes earlier. A Junkers G-31 took off with them to act as escort during the first night's flying.

Unfavourable weather upset all preconceived plans and the *Europa*, after four attempts to penetrate a dense bank of fog over the Frisian Islands, turned back and was forced to land near Bremen in the dark, where the undercarriage, tail and airscrew were damaged.

The *Bremen*, which owing to its four minutes' start had lost touch with the *Europa*, and the escorting G-31, took a more southerly course and missed the fog and thunderstorms that forced the *Europa* to give up. She flew over Hannover, across the North Sea to Newcastle, Liverpool and Dublin.

After crossing the Irish coast she struck dense fog, which caused her to turn northward. But again meeting fog turned south, at times flying only 30 to 50 feet above the countryside.

On reaching the south coast she flew out over the Atlantic but met a 40 m.p.h. gale. By this time the *Bremen* had already lost five hours' petrol in her wanderings, and faced by unfavourable weather the pilots wisely decided to abandon the attempt.

They turned back at about 07.30 hours and after passing over Barrow and the Pennine Chain turned south at Hull and made for Dover and Calais in order to avoid the Hartz Mountains. They finally landed at Dessau, their starting point at 16.24 hours, after a 22-hour flight against every conceivable kind of objectionable flying weather.

AN EASTERN EUROPEAN TOUR.

On Aug. 11 Commandant Weiss and Sergeant Assolant left le Bourget on a Breguet XIX biplane (450 h.p. Lorraine-Dietrich engine) on a tour of Eastern Europe.

Their route was by way of Prague, the Black Sea, the Sea of Azov, the valley of the Volga, Kazan, Moscow and back to Paris.

On Aug. 13 they had reached Rostov by which time they had covered 1,500 miles.

On Aug. 14 they flew to Kazan and on the following day reached Moscow.

FOR WOULD-BE AIRCRAFT CONSTRUCTORS.

There must be quite a number of pilots in this country—some of them already owners of an aeroplane—who would like a machine more or less individual in character, and there are certainly quite a number of people who would like to build their own machine—more or less as a hobby.

The greatest difficulty which faces these would-be constructors is the problem of getting their designs passed by the Air Ministry as airworthy.

An aircraft designer of long experience is ready to undertake a limited number of commissions to give expert assistance to such would-be constructors. He would consider and report upon the practicability of his clients' own proposals, indicate the essential aerodynamic and structural requirements and generally act in a consultative capacity for those who feel able to tackle the greater part of the work of design themselves, or he would undertake to produce complete designs, and act as his clients' technical representative in dealing with the Air Ministry and securing official approval of structural strength and general aerodynamic qualities.

His charges for undertaking such work on behalf of any purely private and sporting interest would consist of a very moderate fixed fee, plus his actual out of pocket expenses.

Any Club or individual who is interested in this proposition should write to "X. Y. Z," c/o The Aeroplane, 175, Piccadilly, W.1.

THE JUPITER IN ITALY.

Some time ago the fact was noted in The Aeroplane that the Alfa Romeo Works at Milan, which produce the famous Alfa Romeo automobiles, had undertaken, at the request of the Regia Aeronautica, the manufacture of Bristol Jupiter engines in Italy. Recently one of the first of the Mark IV Jupiters constructed at these Works was put through a non-stop run of 100 hours officially observed by officers of the Regia Aeronautica.

This run began at 07.30 hours on July 25 and was ended at 11.30 hours on July 29. The engine ran perfectly throughout the test and on examination afterwards was found to be in perfect condition.

This successful result has caused great interest in Italy and considerable enthusiasm among those concerned with the manufacture of the engine in that country. The Directorate of the Alfa Romeo firm has telegraphed its very heartiest congratulations to the designers of the engine at Bristol.

Mr. Roy Fedden who designed the original Cosmos engine, which was ultimately taken over by the Bristol Aeroplane Co., and developed by that firm under Mr. Fedden's continual personal supervision, really deserves the congratulations of the whole British nation. The Jupiter engine is now being used and constructed in more countries than any aero-engine in the World. And in all countries it is giving complete satisfaction and thoroughly reliable service.

PERSONAL NOTICES.

Deaths.

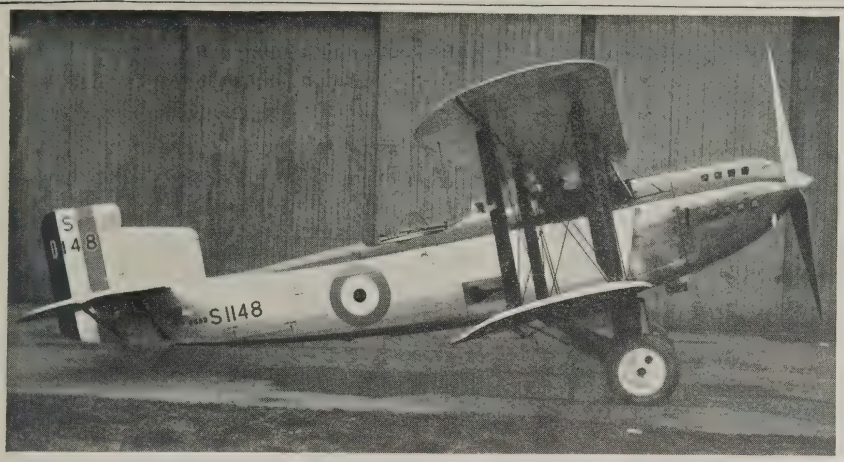
GUARD.—In Hampshire, on or about June 17, 1927, Sq. Ldr. Frederick Henry Wickham Guard, C.M.G., C.B.E., D.S.O., R.A.F.

Sq. Ldr. Guard held a commission in the West African Frontier Force before the War, 1914-18. In February, 1915, he was appointed to a commission in the 12th (Service) Batt. of the Hampshire Regt. In June, 1917, he was appointed Second-in-Command of the Royal Scots with the temporary rank of Major. He was promoted Temp. Lt.-Col. in December, 1917.

In June, 1919, he was acting as G.S.O.I. with the temporary rank of Brig.-Gen. on General Ironside's Staff in North Russia. On Aug. 17, 1919, he relinquished his commission with the rank of Lt.-Col.

On Apr. 3, 1922, he was appointed to a S.S. Comn. in the R.A.F.

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(Supplemenetary List), with the rank of Squadron Leader, for duty with the Armoured Car Companies on formation. In November, 1922, he was appointed to command No. 3 Arm. Car Coy. at Basrah.

In April, 1025, he took over the command of the Inland Water Transport, R.A.F., in 'Iraq. In May, 1926, he was placed on the non-effective (sick) list and on Apr. 14, 1926, he relinquished his commission in the R.A.F. owing to ill-health.

His death was caused by tuberculosis, which followed pneumonia contracted in 'Iraq. He spent some considerable time in Switzerland endeavouring to cure himself.

ROGERS.—At Los Angeles, on Aug. 12, as the result of a flying accident, Arthur V. Rogers (late R.N.A.S.), son of Mr. and Mrs. H. A. Rogers, of Liverpool.

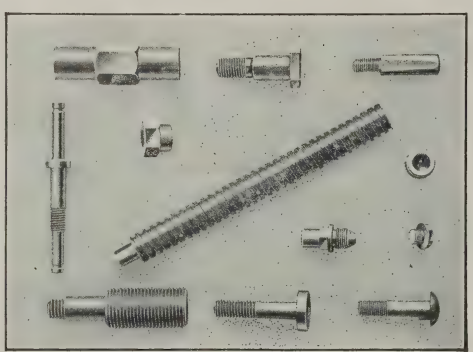
MARRIAGE.

JENNINGS—JACOB.—On July 30, at St. Michael and All Angels, London, Godfrey Jennings, Flg. Off., R.A.F., eldest son of Mr. and Mrs. F. S. Jennings, of Bedford Park, London, W., to Kathleen Elizabeth Warfield Jacob, only daughter of Mr. and Mrs. Harold Jacob, of Laleham, Middlesex.

SUGDEN—BRAIN.—The engagement is announced between Flt. Lt. Ronald Scott Sugden, A.F.C., son of Dr. and Mrs. Sugden, Aintree, Liverpool, and Helen Mary (Molly), daughter of Mr. and Mrs. W. H. Brain, Cwrt-yr-ala, near Cardiff.

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THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. G. Grey

Vol. XXXIII. No. 8. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

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AIRMINDEDNESS IN NORTHERN AUSTRALIA :—The first of the equipment of the Brisbane Flying School, run as a side-line by the "Quantas." This station is one of the links in the Imperial Air Way from England to Australia. The machines are the ubiquitous De Havilland Moths, with A.D C. Cirrus engines.

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AVRO AVIAN

MARK II.



AVIAN Successes in Switzerland.

ON Wednesday, August 17th, Mrs. Eliott-Lynn, flying her Avro "Avian" Mark II, obtained third place in the light aeroplane race at the 2nd International Aviation Meeting held at Zurich, Switzerland.

She also won the Basle Cup for the greatest speed between St. Gall and Basle.

Mrs. Eliott-Lynn was the only woman and owner-pilot participating and the "Avian" was the only British machine entered.

The Avro "Avian" Mark II is superior to any other light aeroplane in the *real* requirements of the private owner and the Flying Club.

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AUG. 24, 1927.

THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 8.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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U.S.A., 1 Year, $8.50c.

ON THE ATTACKS ON THE AIR MINISTRY.

So far as the R.A.F is concerned, one might treat with the contempt that they deserve the attacks which appear from time to time in the daily papers on the High Command of the Air Force. The spirit and moral of the Service itself is so high that attacks on the senior officers by the indigenous inhabitants of Fleet Street do not affect it. But in these days so many other people outside the R.A.F. are keenly interested in flying and one finds that, despite one's best efforts to keep down the circulation of THE AEROPLANE, so many more people who are not directly connected with the Air Force insist on becoming regular readers week by week, that one is bound to take notice of these attacks as and when they occur so that newcomers to aviation may be properly informed.

The latest attack appeared recently in *The Daily Mail*, a paper which has been distinctly unfriendly towards the Air Ministry, and particularly the Air Staff, ever since Lord Rothermere resigned suddenly after having been for a short period our first Air Minister.

The Morning Post is habitually hostile to the Air Ministry, but that is largely because that aged journal is essentially pro-Navy, and resents the existence of an Air Ministry or a separate Air Force in any shape or form, and would, if it had its way, split the Air Force between the Army and the Navy, thus reducing all units to the status of the Fleet Air Arm or Army Co-Operation Squadrons, leaving nothing for independent air operations. *The Daily Mail*, on the other hand, has not been hostile to the existence of an Air Ministry as such, but has merely been hostile to the people who have been responsible for the executive work of the R.A.F.

The Morning Post's only contribution to this recent agitation, is to report the alleged discovery that what used to be known as the "Gosport System" of training is to be revived. As a matter of fact any ordinary Flying Training School instructor to-day flies just a trifle better than did the Gosport specialists—because the latest Avros are so much better than the war-time types. Nobody in the Gosport days flew as do the people at the Central Flying School to-day. And the wildest stunts at Gosport are now part of the every-day work at the C.F.S.

THAT INQUIRY.

The Daily Mail's latest effort has been to demand an official inquiry into the whole administration of the R.A.F., ostensibly with the idea of diminishing the number of accidents in the Air Force. There is not the slightest possibility that such an inquiry is ever likely to be held as the result of *The Daily Mail's* agitation, for Lord Rothermere is not Lord Northcliffe, and Mr. Baldwin is not Mr. Lloyd George (Thank Heaven), and, in such matters as these, personal political influence counts for a good deal more than circulation figures.

Evidently anticipating the failure of any attempt to produce an official inquiry, *The Daily Mail* has proceeded to conduct an inquiry of its own by one calling himself "The Air Correspondent." If the Management of *The Daily Mail* had seen fit to give the name of the Air Correspondent and to indicate his fitness to conduct such an inquiry, possibly his verdict might have carried some weight. As it is, the result is merely funny. Here is his grandiloquent summing-up:—

What is wrong with the Royal Air Force? That has been the crux of the inquiry I have conducted, and the answer can now be summarised in these words:

The present system, dominated by Army minds of the old type, has been tried and found wanting, and its refusal to recognise the technical importance of a service essentially technical has brought matters almost to a crisis.

That crisis can only be averted, and the confidence of the public regained, by the holding of an independent inquiry by experts outside officialdom, not only in regard to R.A.F. training and flying, but also in connection with the maintenance of Air Force machines.

THE SERVICE VIEW.

Those who have the privilege of writing solely for Service readers can deal with bombast of that sort better than one can in a paper like THE AEROPLANE, which is read by all and sundry, a fact which compels one to treat such stuff almost seriously. To Service people one recommends strongly that they get a copy of *The Army, Navy and Air Force Gazette*, dated Aug. 11, in which Major W. E. de B. Whittaker, the new Editor, deals at some length with this *Daily Mail* agitation. His opening remarks, in that style which is quite his own, deserve to be quoted in full:—

In recent months the "popular" Press has paid much attention to the dangers of flying in the Royal Air Force and has begun several campaigns against those responsible for the direction of the flying Service. Each death in a Service flying accident has been carefully listed and added to the total for the year that the reader's flesh may creep. A public inquiry into the causes of accidents has been demanded, and there is much anger that the demand has been ignored

"Experts," those curious people who attain notoriety by supplying the newspapers with information on matters with which they have no



THE RIVALS (I).—No. 600 (City of London), (Bombing) Squadron, Auxiliary Air Force. The Squadron, under the command of Sq. Ldr. the Rt. Hon. F. E. Guest, P.C., C.B.E., D.S.O., M.P., has just completed a fortnight's training in camp at Lympne, where it shared the aerodrome with No. 601 (County of London) (Bombing) Squadron, Auxiliary Air Force. All the Auxiliary Squadrons are equipped with D.H.9as and Avro Lynxes.

practical connection, have reached the doubtful fame of headlines, so startling have been their allegations against the Air Ministry for its sins both of omission and commission. Deaths in the Royal Air Force have served to provide the thrill much needed by newspapers during the "silly season," that season in which for some odd reason little of importance seems to occur. But at the same time the agitation has the unfortunate effect of misleading the public and of inducing those with little special knowledge to believe that the Air Officers directing the fortunes of the Royal Air Force are incompetent and that valuable lives are being lost daily owing to the stupidity and conservatism of the Higher Command.

Major Whittaker goes on to point out that before one may claim that the number of accidents in the R.A.F. is excessive, one must know the number of hours flown by the Flying Services of other nations, and that one must also know the number of hours of flying when essential but dangerous operations are under practice.

This in itself is an interesting point, for there is a vast difference between an accident caused by sheer carelessness or stupidity on the part of a pilot and an accident which happens through nobody's fault during a necessary practice operation which is dangerous. From one's own knowledge of R.A.F. accidents, one can state without much fear of contradiction that accidents resulting from dangerous operations are singularly few.

Further on Major Whittaker makes himself responsible for the statement that the R.A.F. does more flying than any other Air Arm in the World irrespective of its size and the actual number of deaths is less. And he makes the very good point that each aviation accident in the R.A.F. is carefully reported by the Press, but most of the accidents in Foreign Services are ignored.

As to the "Army minds of the old type," he suggests mildly that there are men in the Army just as clever as those that stayed out of it, and that it is natural that the higher ranks of the R.A.F. should contain a large proportion of officers who have in earlier days served in either the Army or the Navy, for as yet there has been insufficient time to produce leaders who have served only with Air Units. He adds that critics are apt to forget that these Army minds of the old type are owned by the officers who are most anxious to reduce casualties and to increase efficiency.

This is putting the case mildly. Major Whittaker, being essentially a soldier, is thereby barred from saying too much in praise of his own Service. Being oneself essentially a civilian, one can say that Army training and Army associations produce inevitably in any educatable person a higher level of intelligence and a higher standard of conduct than does any other manner of life in the World.

A curious commentary on this fact is that in these days many of our greatest business houses are discovering that as an organiser of big business the Army officer with a Staff College training is actually a better business man than anybody who has merely lived a commercial life. And consequently quite a number of the really great industries in this country are engaging retired Staff officers, and Army officers who have held responsible positions even though they may not be able to put *p.s.c.* after their names, to re-organise businesses which have been made in a mess by so-called business men. Possibly that interesting fact may account for the trade boom which is now beginning in England.

TECHNICALITIES.

Just precisely what *The Daily Mail's* Air Correspondent means by the refusal of the present system "to recognise the technical importance of a service essentially technical," is a little hard to gather. But lucid English is never the strong point of the journalist. Probably what he means is that those in control of the Air Force refuse to recognise the fact that a mechanical service depends largely on its mechanics—which in this case include mechanical officers as well as airmen.

The truth on this point is, as one has said before, that the Army mind, being very much alive to the needs of a mechanical service, is busy turning everybody into mechanics. The men who are now being trained in the Air Force, when the whole system of training is complete, will be about the finest collection of mechanics in the World. And any ordinary pilot officer, by the time he has gone through his course, will be quite the equal of the average garage mechanic, at any rate.

The higher technical duties are being handled by officers who are getting the finest training in theoretical engineering which can be got at our various Universities and Technical Colleges. And above that, for those who believe in scientists, there is the Advisory Committee, which consists of a number of the most noted theorists in this or any other country. The fact that some of their theories are not particularly correct does not affect their status among scientists. And at any rate they are just as good as any other scientists in the World.

EVIDENCE.

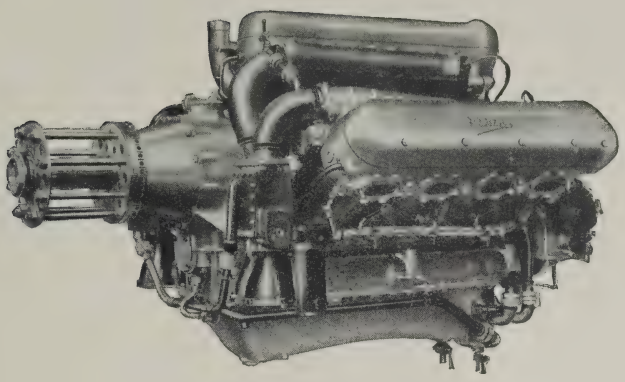
The only evidence which *The Daily Mail's* Air Correspondent produces in support of his conclusions are the opinions of Brigadier General P. R. C. Groves, Colonel the Master of Sempill and Lieut. Colonel G. L. P. Henderson. One happens to know all three of these distinguished personages, and while one has the highest opinion of each of them in certain directions, they happen to be the very last people in the World whose opinions one would ask as to the right or wrong of anything connected with the Air Ministry.

General Groves takes it upon himself to attack the statement made by Mr. Baldwin in the House of Commons a few months ago to the effect that one of the principle reasons for accidents was "the peculiar psychology of the pilot." According to General Groves, Mr. Baldwin "contended, in effect, that the pilot is a harum-scarum daredevil who cannot be judged by the rules applicable to ordinary mortals." And he adds, "Never has a responsible Minister been made to voice a more unwarrantable statement."

As a matter of fact, what Mr. Baldwin actually said is perfectly true. Quite a number of the accidents that do happen are due to simple foolishness or carelessness or sheer swank on the part of the pilots. But the curious thing is that the proportion of such accidents which have fatal results is comparatively low. The real fool pilot is much more likely to crash his machine and get away with it than is the careful, or over-careful pilot who is so anxious to save his machine that he ends by killing himself in the effort.



THE RIVALS (II).—No. 601 (County of London) (Bombing) Squadron, Auxiliary Air Force. The Squadron, under the command of Sq. Ldr. the Lord Edward Grosvenor, has just completed a fortnight's training in camp at Lympne, where it shared the aerodrome with No. 600 (City of London) (Bombing) Squadron, Auxiliary Air Force. All the Auxiliary Squadrons are equipped with D.H.9as and Avro Lynx training machines.



450 *h.p. Napier Lion engine*

"The ultimate and only test of mechanism is the test of practical use.—

Aero engines in particular are to be judged by their performance in actual flying. On the Continental services of Imperial Airways Ltd., 20 Napier Lion engines are in use, and during the 12 months ending 30th September, 1926, these 20 engines between them covered 566,200 miles—an average of 28,310 miles per engine. One engine actually covered 44,495 miles. Further proof of the reliability of Napier engines, when properly maintained, can scarcely be needed."

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To date, Napier engines employed by Imperial Airways have covered over 3,500,000 miles on commercial service.

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It is quite true that the average pilot is like the average man of his class. But you have only to drive a car on any crowded road to realise what a complete fool an ordinarily intelligent man can be when he is put in charge of a mechanically-propelled vehicle. And even the most careful examination may fail to reveal the fact that a man who is quite intelligent in a good many other ways, and absolutely perfect physically, according to the R.A.F. Medical people, may be a positive danger when he is behind an engine.

FORESIGHT.

General Groves then proceeds to attack the Air Ministry for lack of foresight. The trouble with the Air Ministry really is that it has too much foresight. General Groves says that the Air Ministry did not take up parachutes until a large number of lives had been saved in the U.S. Air Services by their use. That is quite true. But the reason the Air Ministry did not take up parachutes sooner was that though the Air Staff wanted parachutes for the mere flying people, and has been wanting them ever since the year 1917, the highly-skilled technicians, for whom *The Daily Mail* keeps on bleating, refused to recommend any particular type of parachute because no existing type had been proved to be 100 per cent. efficient.

The said experts themselves kept on promising that they, by way of the Royal Aircraft Establishment at Farnborough, would produce a 100 per cent. efficient parachute. Finally the Air Staff, who really ought to have nothing to do at all with equipment, put its foot down and said "We are going to have this American parachute,"—and got it.

If we had depended on the technical experts of the Air Ministry we should still be waiting for parachutes. For these prize theorists have not the common sense to see that if a parachute is only 50 per cent. efficient it still gives a man one chance in two of getting down alive. And that is much better than no chance at all in time of war.

Again, General Groves reproaches the Air Ministry with the fact that only now, in the ninth year of the Armistice, is it scrapping obsolete machines. And he adds that, "this lack of foresight has unquestionably resulted in a certain number of preventable deaths."

Here again he is absolutely wrong. The Air Staff has been trying to find better machines than the D.H.9a and the Bristol Fighter ever since the Armistice. And the aforesaid technicians have kept on at their usual game of promising something better if only the Air Staff would wait for a while.

In the end, the Air Staff has again put its foot down and is now ordering machines which after due trial at Martlesham have been adjudged best by the pilots in spite of the opinions of the technicians. So it will be seen that General Groves is entirely wrong in attributing any accident to lack of foresight.

The accidents have in fact been due to the political graft of the technical people, who consistently turn down or crab everything that is put up to them, in the hope that they may (largely by cribbing such ideas) produce something of their own which may be better. Slot and aileron control, anti-stall gears, metal airscrews, and dozens of other things which the "old Army minds" have wanted to adopt, have been held up for years by the civilian experts and so-called scientists at Farnborough and in Kingsway.

The real trouble is that what has been called the old Army mind is apt to be too modest, and to think that because it belongs to a mere simple soldier it ought not to set itself up against highly-trained technicians. Whereas the fact is that right through the War, and ever since, the only time we have ever made any real progress in aircraft or engines or in equipment of any kind has been when the Army mind has got fed up with the technicians and has tackled the job itself.

BAD GENERALSHIP.

Finally, General Groves commits himself to the statement "that it is desirable to carry out the inquiry which *The Daily Mail* has constantly advocated during the past year."

This is a most disastrous statement. As a regular soldier, General Groves should be the last person in the World to advocate an inquiry into any of the King's Services at the behest of a newspaper.

Furthermore, if as Secretary-General of the Air League of the British Empire, General Groves is going to commit the League to backing every newspaper agitation which starts against any Department of the Air Ministry, then the less support the Air League gets from people concerned with aviation, the better.

When General Groves was appointed Secretary-General to the Air League one hoped that he would make a success of the job and would instil some life into that moribund organisation. But if instead of being a live wire to the Air League General Groves is only going to institute a policy of pin-pricks against the Air Ministry, the Air League is not likely to profit much by his association with it.

The function of the Air League is to increase airmindedness throughout the Empire and to support the Air Ministry in its efforts to get a bigger Air Force as efficient as the R.A.F. to-day. The worst policy that the Air League can follow is to support feuds against the administration of the Service for whose benefit it exists.

Undoubtedly the equipment of the R.A.F. needs improving. Nobody has fought more consistently for such improvements throughout the last fifteen years than has THE AEROPLANE.

But THE AEROPLANE can at any rate claim that in attacking those in authority it has always attacked the particular Departments which were at fault. And that is precisely where all the authorities quoted by *The Daily Mail* have gone wrong.

ENGINEERING.

Of the other authorities quoted, the Master of Sempill, as mentioned recently has agitated for an Engineering Branch in the R.A.F. This, as was pointed out at the time, does not exist because the whole Service is an Engineering Service, and, where specialists are needed, certain officers are specially trained or specially appointed for specialist duties.

Colonel Sempill's erroneous criticism is chiefly due to his omitting to keep in close touch with modern developments in the Air Force. Also Colonel Sempill being essentially of an engineering turn of mind, is rather apt to overrate the importance of engineering and to under-rate the importance of the R.A.F. as a fighting force.

FIGHTING.

The third authority quoted was Lieut.-Colonel Henderson. During the War he was a good leader of fighting men. His Squadron of Sopwith Pups had quite a good name. And undoubtedly he is one of the best pilots and one of the best instructors in this country. But he is constitutionally inclined to "go Bolshie" about anything in which Government Departments are concerned. One suspects him of being more Irish than Scottish. And unfortunately, like Colonel Sempill he appears to be quite out of touch with modern developments in the R.A.F.

His chief complaint apparently is against close formation flying, which, he says, is an application of infantry drill to aeroplanes. In his opinion it makes flying unsafe without accomplishing any particular object. He even goes as far as to say :—

> For fighting scouts it is useless. It means that only the front man can use a gun. The others are so fully occupied in keeping close formation that they cannot take their eyes off the leader's machine. I have seen machines shot down in close formation for the simple reason that the pilots were so occupied in keeping formation that they had no time to keep a proper look-out in the rear.
>
> Close formation flying robs a pilot of individuality. It makes it impossible for him when cross-country flying to take proper observations of where he is.
>
> The practice of landing in close formation means that all the machines come down a great deal faster than they would in the ordinary way. A pilot trained to come down fast is the last man unless of exceptional ability, to reduce speed for a slow landing in a field in case of engine trouble. That is why we read of so many R.A.F. crashes in hedges and so on while attempting to land in small fields.

That, of course, sounds very plausible. But one could find thousands of pilots who would say equally that they have seen machines shot down through losing their formation.

The truth of the matter is that close formation flying is a form of training. In actual warfare the formation would naturally spread out a bit without in any way breaking. And it is even possible that in bombing tanks or attacking troops upon the road it might pay very well to stick to formation almost as close as those which one sees at R.A.F. Displays.

Close formation flying is strictly analogous to infantry drill. Nobody would think of sending infantry to attack in close formation. But only by training in close formation can men be properly handled on the ground. And, similarly, close formation in the air is fully justified.

It will be more than ever necessary in future when the R.A.F. increases in size and units have to keep close formation when near aerodromes so as not to crowd the sky. Once in a while a pilot gets adrift in his formation and charges round the sky and barges into another machine, with fatal results to himself or to the other man. But that is no reason for a general outcry that formations are dangerous.

On one point one is fully in agreement with Colonel Henderson. That is when he insists that we should "instil caution into our airmen without impairing their high spirits. Reckless flying and low stunting should be forbidden absolutely." But that is the affair of the Flying Training Schools, where one believes such lessons are taught.

TRAINING.

Another charge by *The Daily Mail's* expert is that "the official machine tries to make pilots out of men unsuitable temperamentally." That is absolutely untrue.

Every officer on probation who really wants to fly is given every possible chance of learning. And instructors naturally dislike turning down a man who is genuinely keen. But the tendency on the whole is much more to get rid of men who are temperamentally unsuitable than to keep them.

The only exception to this is in the matter of Fleet Air

The

KING'S CUP RACE

1927

As in 1926, when Capt. Broad flying a de Havilland "Moth" won the King's Cup of that year, this trophy has again been won by an aircraft fitted with a Fairey Patent Metal Airscrew (license Reed).

FIRST

and

SECOND

places in this year's race have been obtained by Capt. W. L. Hope on a similar machine, who won the trophy, and by Capt. McDonough on a Westland "Widgeon III," who obtained second place. BOTH MACHINES USED FAIREY METAL AIRSCREWS. Mr. Hope says ". . . . the Fairey-Reed gave me the extra miles per hour that enabled me to win the Race."

Sole Manufacturers, and Licensees of the Reed Patent Airscrew for the British Empire :

The Fairey Aviation Co., Ltd.,
Hayes, Middlesex.

FAIREY
LICENSE REED
METAL AIRSCREW

Arm pilots. When Naval officers are seconded by the Admiralty to become Fleet Arm pilots the R.A.F. does its best to oblige the Navy, with the result that the official machine, which in this case is the Flying Training School, does sometimes try, under pressure from the Admiralty, to make pilots out of men who are unsuitable.

The result may be seen in two Fleet Air Arm fatalities which happened comparatively recently. Each of those Naval officers had been turned down as hopeless by his first instructor and then been given another chance. It was not that either of them was incapable of flying, but that each flew in such a way that in the opinion of the instructor he would inevitably kill himself. And they did.

Incidentally, there is a vast difference between a man who will never make a pilot and the man who does quite easily become a pilot, but is recognised as bound to kill himself.

DRILL AND DISCIPLINE.

The last and perhaps the most futile of *The Daily Mail's* attacks is on the drill and military routine of the Air Force. There seems practically no possibility of making these Air Correspondents of the daily press, or even the editors of the papers themselves, realise that the R.A.F. is a fighting force, some members of which have to fly, and that the aircraftman, in time of war, will certainly have to defend himself like an infantry soldier.

Many instances have already happened in Iraq and India and Africa of small detachments of the R.A.F. having to defend themselves against hostile inhabitants. And in any case aerodromes have to be guarded by somebody and the Air Force must guard its own aerodromes and other establishments just as the Navy guards its barracks and other establishments ashore. For the matter of that the Navy does rather more infantry drill than does the Air Force.

On the whole *The Daily Mail's* attack is just about as weak as anything could be. But, as one has said at the beginning of this article, these points have to be refuted for the benefit of those who do not as yet understand the facts of the matter.—C. G. G.

"IT'S YOUR MONEY WE WANT."

Just now the entire absence of civil aviation in the Irish Free State is a matter to which attention has been directed. Of late years the lack of this desirable form of transport has been repeatedly commented upon by both aviators and business men, but still the position remains the same—nothing doing in the line of civil aviation in Southern Ireland.

The latest development has been that Sir Alan Cobham has written to the Urban Council of Killarney, County Kerry, suggesting to that body that they should take steps to provide landing places for aeroplanes in the neighbourhood of Killarney. From this communication a logical conclusion to draw is that provided that suitable landing grounds are made available in the vicinity of Killarney a regular passenger service would be established between London and Kerry,—an innovation that would assuredly be very much to the benefit of Southern Ireland. Then Killarney and the surrounding beauty spots of Kerry would be brought within four or five hours of London, and would thus become much more accessible to English and Continental visitors.

In the Free State it is believed that some aviation companies in Great Britain would be willing to establish services to Southern Ireland if there were a sufficiency of convenient and suitable aerodromes provided at Irish centres of attraction. This matter is one that is now considered to be well worthy of investigation by the Free State Government, and if it should be found to be, as it probably would, a sound proposition commercially, then it should be the Government's first duty to provide State aerodromes throughout the Free State counties. At present the only flying in Ireland is that done by the Army Air Force. This Force is a pretty well equipped and efficient body, but its use is limited by the fact that it is entirely concentrated in Baldonnel, which is the only aerodrome in the Free State. It would surely be in the best interests of the Ministry of Defence, as well as commercial enterprise, to have a number of aerodromes made available at different points in the Southern Counties of Ireland.

[The foregoing has been sent by a resident in County Cork whom one does not know. The idea is interesting. But adequate protection for aerial tourists and their machines would have to be guaranteed by the Free State Government—and it seems to have difficulty in protecting its own ministers.

Years ago one remembers a harmless cyclist (before motors existed) asking an old man on the road the way to Skibbereen. The old man replied by beating him with a stick for daring to talk English to him,—and that was before so-called Irish became compulsory as it is to-day. On telling the story to another Irishman afterwards, all the consolation the cyclist got was:—"Well! Ye'd find some rale cross fellas down that-away sometimes." And even the late R. J. Mecredy wishing to camp near Killarney, was warned by a local farmer that "the moskeeties does be dam cross in these parts." So forced-landings may bring unpleasant experiences, even though state-aided aerodromes be provided.—C. G. G.]

QUALIFYING FOR THE DOLE.

A sum of money amounting to $35,000 (£7,000), and known as the Dole Prize, was donated some time ago, not by a munificent British Labour Ministry, but by a Mr. James Dole, who discovered how to ensnare pineapple into cans, for a flight from San Francisco to Honolulu. This prize attracted a large number of aspirants who seemed as anxious to make the Pacific air as overcrowded as many people would like the Atlantic to be.

To attempt to enumerate the whole list of people who entered for this prize would take up too much space, but it is interesting to note that a committee in Hawaii asked for a postponement of all attempts as the entries then received were "not properly equipped or qualified." This postponement was subsequently cancelled, as it was considered unfair to a certain number of bona fide competitors who were ready to start.

Nine aircraft were lined up at the Oakland airport on Aug. 16, and of these six started. Of the remaining three one crashed taking off, one failed to get off, and the third was restrained from starting owing to the machine having insufficient fuel capacity for the flight.

A machine known as the *Woolaroo* flown by Mr. "Art" Goebel and carrying Lieut. Davis as navigator reached Hawaii in 26 hours 17 mins. flying time, and another, the *Aloha,* flown by Mr. Jansen and carrying Mr. Schluter, arrived two hours later. These two machines claimed first and second prizes of $25,000 and $10,000 respectively.

Two machines, the *Golden Eagle* and the *Miss Doran,* with their five occupants, one of them a woman, have been lost.

Another competitor, the *Dallas Spirit,* flown by Mr. W. E. Erwin and carrying Mr. Eichwalt as passenger, which was forced to return to Oakland on the first day, set off again on Aug. 19 for Honolulu with the intention of searching for the missing machines.

This machine has wirelessed to the effect that it was the victim of a succession of "tail-spins," and no further news has been received.

The U.S. Pacific Fleet has sent all its available ships to search for the missing machines, and now Mr. Dole assisted by Messrs. Malloska and Hearst, the sponsors of the *Miss Doran* and the *Golden Eagle,* have subscribed a total sum of $40,000 as reward for finding them.

What has it all amounted to? For the paltry sum of $35,000 seven lives have been lost in the Pacific, and three were lost in test-flight crashes before the start of the competition. And more money has been subscribed for rewards for the finding of these poor bodies at sea than was originally given as prizes for one of the most ridiculous and foolhardy air races ever promoted.

The eagle screamed justifiably at the successes of Capt. Lindbergh and Lieuts. Maitland and Hegenberger, but thanks to the efforts of the wealthy Modocks who will put their money into any fool scheme for the sake of notoriety it has now got a sore throat.—L. B.

THE DE HAVILLAND MOTTE.

The De Havilland Aircraft Co., Ltd., announce that the Raab-Katzenstein Flugzeugwerke of Cassel have come to an agreement with them for the manufacture of the D.H. Moth in Germany. The agreement provides for the sale of the Moth—which will be known as the "Mötte"—in Germany, Austria and Hungary.

Construction will begin so soon as all the necessary drawings, and jigs and material can be imported. The "Cirrus II." engine will still be manufactured by A.D.C. Aircraft, Ltd.

The Raab-Katzenstein company was formed in November, 1925, by Herr Raab and Dipl. Ing. Katzenstein as a successor to the Dietrich Flugzeug-Werke. They have specialised on the manufacture of medium-powered school and touring aircraft on the lines of the old Fokker D VII, but fitted with the 75 h.p. Siemens radial engine.

The De Havilland company are to be congratulated on the all-pervading success of the Moth, and this latest move is the most notable in that they are invading a field that is already amply supplied with manufacturers of civil aircraft.

They are the only British aircraft firm whose civil aircraft are being manufactured outside Great Britain. The D.H.50 is being built in Belgium, Czecho-Slovakia and Australia, and now the Moth is to be built in a country which has, under post-war conditions, had every opportunity of specialising on just such a type of aircraft.

As a compliment to the De Havilland company the phrase Air-mindedness really ought to be officially changed to Moth-mindedness, for among aircraft manufacturers they have done more to spread the gospel of British Civil Aviation than all the rest combined.—L. B.



THE NEW CLUBS HAVE SELECTED MOTH LIGHT AEROPLANES

(30-80 H.P. CIRRUS ENGINE).

THE first three unsubsidised Municipal and County Flying Clubs in Great Britain to commence operations, The Norfolk and Norwich Aero Club, The Bristol and Wessex Aero Club, The Nottingham Aero Club, have all chosen the Moth as their standard training type because of its proved superiority for training, economy in operation and high performance. The Moth is the standard equipment of all the subsidised British and Australian Flying Clubs and has also been selected by the newly-formed Johannesburg (South Africa) Light Aeroplane Club.

PERFORMANCE.
(With Pilot, Passenger and Luggage).

Speed Range	-	38–104 m.p.h.
Rate of Climb	-	650 t. per min.
Ceiling	- -	18,000 feet.

PRICE £730 Ex. Works.

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THE ROYAL AIR FORCE.

The London Gazette.

Aug. 16.

General Duties Branch.—The following Flt. Lts. are granted perm. comns. in this rank (July 1):—J. H. Hargroves, N. V. Moreton. A. C. Pearson is granted a S.S. comn. as Plt. Off. on probation, with effect from, and with seniority of, Aug. 1, 1927.

The following are granted temp. comns. as Flg. Offs. on attachment for four years' duty with the R.A.F. (Aug. 2):—Lts., R.N.—S. C. Tuke, H. C. Ranald, E. H. Shattock. Sub-Lts., R.N.—J. Brett, G. L. Brinton, O. S. Stevinson, F. W. Bourne, H. H. Caddy, P. D. Heinemann, H. D. Barlow, J. B. Buckley.

Air Commodore E. L. Gerrard, C.M.G., D.S.O., is restored to full pay from half-pay (Aug. 9).

The following officers are transferred to the Reserve, Class A:—Flt. Lts.—A. W. Clemson, O.B.E., D.S.C. (Aug. 18); A. F. Ingram (Aug. 21). Flg. Off.—H. D. Wardle (Aug. 18).

Flg. Off. H. A. J. de S. Barrow (Lt., K.O.S.B.) relinquishes his temp. comn. on return to Army duty (July 16).

The undermentioned Lts., R.N., Flg Offs., R.A.F., relinquish their temp. comns. on return to Naval duty:—A. N. Waring (Apr. 12), A. B. B. Foulerton (July 30). The S.S. comn. of Plt. Off. on probation A. J. Vaughan is terminated on cessation of duty (Aug. 2).

Stores Branch.—Flg. Off. L. V. Hirst is granted a perm. comn. in this rank with effect from Oct. 1, 1926, on completion of probationary service.

Medical Branch.—The following are granted perm. comns. in the ranks stated (Aug. 17):—Flt. Lt. R. W. White, Flg. Off. C. J. S. O'Malley. The following Flg. Offs. are promoted to the rank of Flt. Lt.:—J. McM. Wilder (Aug. 24); F. B. C. L. B Crawford (Aug. 25). Flt. Lt. F. T. Allen relinquishes his temp. comn. on account of ill-health (July 12).

Memoranda.—The permission granted to Lt. G. V. Leamond to retain rank is withdrawn on his enlistment in the Army (July 8).

The permission granted to Sec. Lt. G. R. S. Browne to retain rank is withdrawn on enlistment in the ranks of the R.A.F. (July 12).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—G. B. Falconar (Aug. 1); H. P. Fraser (Aug. 2); E. A. Buchan (Aug. 3); J. H. M. Smith (Aug. 3); P. Booth (Aug. 4).

The following are transferred from Class A to Class C:—Flt. Lt. H. M. Ireland, D.F.C. (Aug. 5); Flg. Off. L. G. A. Kirchner (Aug. 13). Plt. Off. on probation S. O. Tudor is transferred from Class A.A. to Class C (Aug. 13).

Appointments.

Week ending Aug. 22.

General Duties Branch.—Wing Commanders A. H. Jackson, to Station H.Q., Spittlegate, pending taking over command, 17/8. W. J. Ryan, C.B.E., to Air Ministry, Directorate of Personal Services, 17/8. A. G. R. Garrod, M.C., D.F.C., to H.Q., Fighting Area, Uxbridge, pending posting, 1/9.

Flight Lieutenants T. H. Newton, D.S.C., to Home Aircraft Depot, Henlow, 15/8. W. J. Seward, to R.A.F. Depot, Uxbridge, 22/8. J. W. F. Merer, to R.A.F. Cadet College, Cranwell, 15/8. A. H. H. MacDonald, to A. and G. School, Eastchurch, 31/8. H. W. Evens, to R.A.F. Base, Gosport, 6/9. I. Cullen, M.B.E., A.F.C., to No. 1 F.T.S., Netheravon, 1/9. R. E. Meek, to No. 21 Group H.Q., West Drayton, 3/9. W. J. Daddo-Langlois, to R.A.F. Station, Kenley, 13/9. A. W. Franklyn, M.C., to R.A.F. Base, Gosport, 8/9. R. Menzies, to School of Army Co-operation, Old Sarum, 30/8. A. E. Beilby, to No. 5 F.T.S., Sealand, 3/8.

Flying Officers E. C. Delamin, M.C., to No. 502 Ulster (B) Sqdn., Aldergrove, 25/8. J. Silvester, to No. 1 F.T.S., Netheravon, 14/8. K. C. McKenzie, M.B.E., to No. 207 Sqdn., Eastchurch, 3/9. R. C. Wansbrough, to No. 4 Sqdn., Farnborough, 30/8. C. E. Galpin, to No. 502 Ulster (B) Sqdn., Aldergrove, 1/9 E. C. G. Badcock to R.A.F. Station, Biggin Hill, 30/8. T. J. Desmond, to A. and G. School, Eastchurch, 31/8. E. E. Fallick and D. V. Ivins, to No. 208 Sqdn., Egypt., 12/8.

Pilot Officers.—The undermentioned Plt. Offs. are posted to No. 4 F.T.S., Egypt, 12/8:—P. G. J. Atkinson, I. B. Beesley, H. Box, F. T. K. Bullmore, R. W. M. Clark, A. R. Combe, H. J. Cross, F. D. Dawson, G. Fachiri, C. E. V. L'E. Feasey, A. R. Grenfell, G. K. Horner, G. R. Jackson, K. F. Jones, D. J. Hughes-Morgan, J. R. Mathews, U. H. Mignon, A. P. Miller, F. W. Murison, F. J. Sarsfield-Sampson, M. G. Sedorski, G. E. E. Singleton, V. S. W. Smyth, B. G. Thompson, O. G. Williams, P. W. M. Wright, and L. M. Woolveridge.

The Fifth Staff Course.

The following officers have successfully passed the fifth course at the R.A.F. Staff College, Andover:—

Wing Cdrs. P. C. Maltby, D.S.O., A.F.C., H. Gordon-Dean, A.F.C.

Sq. Ldrs. J. Sowrey, A.F.C., M. Henderson, D.S.O., A. W. F. Glenny, M.C., D.F.C., G. B. A. Baker, M.C., H. K. Thorold, D.S.C., D.F.C., A.F.C., J. O. Andrews, D.S.O., M.C., and J. J. Breen.

Flt. Lts. A. H. Wann, P. S. Jackson-Taylor, P. Warburton, M.B.E., *q.s.*, A. L. Fiddament, D.F.C., C. R. Steele, D.F.C., G. E. Gibbs, M.C., G. S. N. Johnston, R. M. C. Macfarlane, M.C., R. J. Divers, M.B.E., and A. C. Bayley.

Lt.-Cmdrs. E. A. Davis and J. A. Garland, R.N.

Mjrs. B. M. G. Butterworth, M.C., R.A., and Ernest J. Strover, *p.s.c.*, Indian Army, Lt. W. W. Allison, R.A.

Wing Cdr. W. H. Anderson, D.F.C., and Flt. Lt. W. D. Bostock, Royal Australian Air Force.

Wing Cdr. G. M. Croil, A.F.C., and Sq. Ldr. L. S. Breadner, D.S.C., Royal Canadian Air Force.

Iraqi Cadets for Cranwell.

The August issue of the *Journal of the Royal United Service Institution*, states that arrangements have been made for six Iraqi Cadets to enter the R.A.F. Cadet College, Cranwell, in September next, to complete the usual Flight Cadet's course.

A Shanghai Gesture.

A *Reuter* message in *The Times* of Aug. 17 states:—

Shanghai, Aug. 16.—While a British airman was engaged on a practice flight in a Bristol aeroplane this morning engine trouble developed, and the airman made a forced landing on the Kiangwan golf course outside the Settlement.

The colonel commanding a Chinese regiment in the neighbourhood immediately ordered out a guard to keep the crowd away from the machine. An Air Force relief party was sent out to bring the machine in, and the facts were simultaneously communicated by telephone to the Chinese Commissioner of Foreign Affairs. The R.A.F. party dismantled the machine, and brought in the engine and fuselage in one load. When they were about to bring in the wings, the Chinese military authorities stated that they had been instructed by their superiors to detain the wings until further orders.

Late this evening the relief party were ordered to leave the wings at Kiangwan and return to Shanghai. The Chinese commander gave a receipt and promised to return the wings as soon as instructions to that effect were received from his superiors.

The following communiqué was issued by the Shanghai Defence Force H.Q. on Aug. 17:—

As stated last night, a British aeroplane made a forced landing in the International racecourse on Tuesday morning. A small unarmed party was sent to retrieve the aeroplane and succeeded in bringing in the engine and fuselage, but before the wings could be brought away a party of Chinese troops intervened, preventing their removal.

The British Consul-General requested the Chinese Commissioner for Foreign Affairs to take the necessary steps to enable the wings to be withdrawn, but met with a categorical refusal. Thereupon the G.O.C. Shanghai Defence Force, Major-General John Duncan, requested the Consul to inform the Commissioner for Foreign Affairs that if the necessary instructions to return the wings were not issued by 11 o'clock on the morning of Aug. 17 he would take such action as seemed appropriate.

At the time stated no instructions were issued by the Commissioner for Foreign Affairs, and General Duncan gave orders that the posts on the Shanghai-Hangchow Railway south of Soochow Creek should be occupied from 2 o'clock in the afternoon, and at 4 o'clock in the afternoon the railway should be cut at the level crossing immediately south of Soochow Creek. This has been carried out.

A message from the Shanghai correspondent of *The Times*, dated Aug. 18, states:—

Owing to the insistent pressure brought to bear on the Nationalist Foreign Minister by the Chinese military leaders, who are anxious to transport their goods to districts west of Shanghai, the Chinese authorities to-night returned the wings of the British aeroplane which had made a forced descent on the International racecourse. Thereupon, British engineers began to repair the break in the railway.

This is a victory for the military over the Chinese officials, who had unavailingly tried other methods to escape "loss of face." One suggestion was that the British should relay the railway, and the Chinese would then return the aeroplane; another was that the British should promise to discontinue aeroplane flights. Both suggestions were refused by Major-General Duncan.

AIR AFFAIRS IN PARLIAMENT.

SHORT SERVICE COMMISSIONS.

In the House of Commons on July 29, in reply to Sir F. Sykes, the Secretary of State for Air said that the percentage of officers in each rank holding Short Service Commissions in the General Duties Branch was as follows:—Pilot Officers, 74 per cent.; Flying Officers, 49 per cent.; Flight-Lieutenants, 6 per cent.; above Flight-Lieutenants, nil.

In reply to further questions by Sir F. Sykes, Sir Samuel Hoare, in a written answer, said that the estimated cost of training short service officers, including pay, allowances and maintenance charges prior to their posting to Service Squadrons was approximately £3,250. The period of such training was one year, including leave.

The maximum period of service abroad for short-service officers was five years. Short-service officers serving abroad were not normally posted to home units prior to transfer to the Reserve. They were however brought home in sufficient time to take any leave they had earned before transfer.

The number of flying officers (short-service) in training units at home was 124, and overseas 29. The number in service units at home was 393 and overseas 203. These figures included 62 officers under flying training at home and 22 under flying training overseas.

Sir Samuel Hoare also supplied the following figures:—

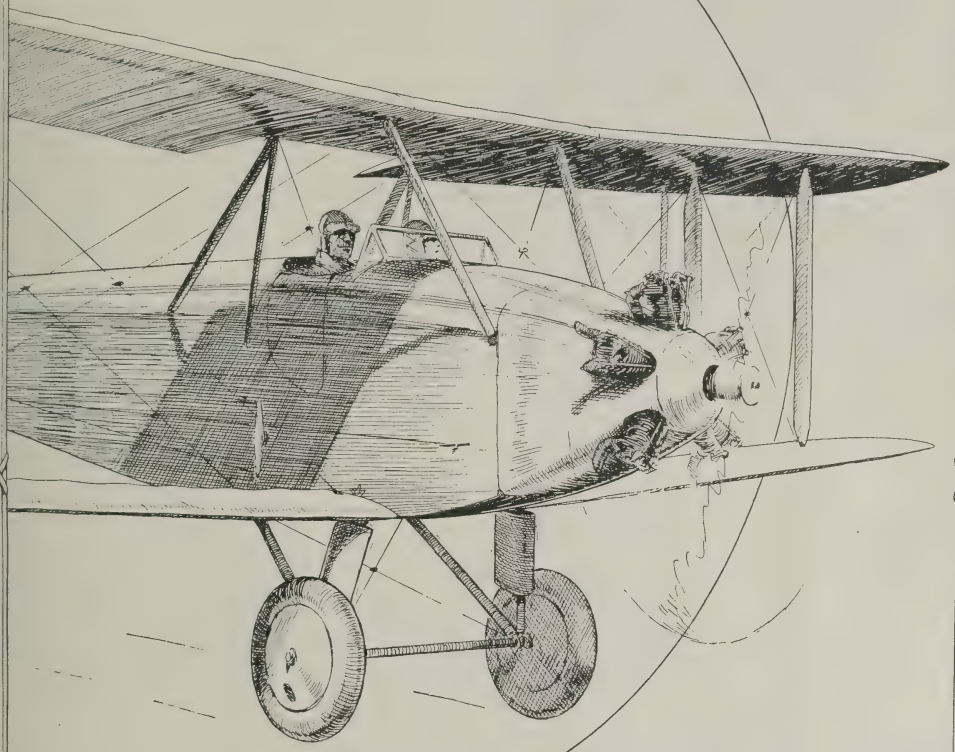
Number of short-service flying officers, General Duties Branch, who (1) have completed their Reserve service, 90; (2) have been discharged without service in the Reserve, 556; (3) have been discharged while in Reserve, before completion of service, 24; (4) have received permanent commissions, 320; (5) are serving on extensions of their original agreements, 85; (6) are still serving in Reserve and are qualified as pilots, 285; (7) are still serving in Reserve, but are not qualified as pilots, 126.

The figure at (2) includes waste from all causes over a period of 7½ years.

THE HENLOW BAND.

In the House of Commons on July 29, in reply to a question by Col. Day, the Under-Secretary of State for Air, said that the Henlow R.A.F. Band, which was a voluntary one, had accepted an engagement to play at a fete of the local Conservative Association. The engagement was approved by the officer responsible, who stipulated that the band should take no part in the political meeting which formed part of the entertainment; the presence of the band in such circumstances, though not directly forbidden by the terms of the existing regulations, was liable to be misunderstood, and revised regulations were being issued.

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THE "WAR BIRDS."

Few books on flying have caused so much interest as has "War Birds,"—the diary of a hitherto unknown American aviator who served with the R.F.C. and R.A.F. The book says that he and his two friends were in 85 Squadron,—which was commanded in turn by Major Bishop, V.C., and Major Mannock, V.C.—but the writer is never mentioned.

The other day Mrs. Walter Longton, the widow of Sq. Ldr. Longton, sent to THE AEROPLANE a book of photographs collected by her late husband while serving with 85 Squadron. In one of these photographs appear three Americans,—Callahan, Springs and Grider,—and Mrs. Longton said that Grider was the author of the book.

Thanks to Mrs. Longton THE AEROPLANE is now able to publish the photographs of the immortal three, together with others which will bring back war-time memories to many who served the King in those strenuous days.—C. G. G.





THE WAR-BIRDS.—Above, left, Major E. Mannock, V.C., D.S.O., M.C.; right, Major W. A. Bishop, V.C., D.S.O., M.C., D.F.C.

On the right, MacGregor, Springs, Horn, Thomson (prisoner, June, 1918), Callahan, Grider (killed, June, 1918) and "Lobo," at St. Omer, June, 1918.

Since these photographs were prepared for publication a communication has come from the American publishers confirming that Mr. Grider did write the Diary, and that his children have already received royalties on the book.



85 SQUADRON.—Taken at St. Omer in June, 1918, the day Major Bishop went home. Those in the picture, left to right, are:—Trapp (killed, July), Caruthers (went to 84 Squadron), Inglis, Brown (killed, November), Dixon (went to 41 Squadron), Horn, Randel, Bishop, Baker (went to 92 Squadron), Callahan, MacDonald, Dymond, Longton and MacGregor.

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ROLLS-ROYCE AERO ENGINES in a Vickers-Vimy aeroplane flew from **ENGLAND** *to* **SOUTH AFRICA** *in* 1920.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew across the **SOUTH ATLANTIC** *in* 1922.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew **round AUSTRALIA** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Fokkèr monoplane flew from **HOLLAND** *to the* **EAST INDIES** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

ROLLS-ROYCE AERO ENGINES in Dornier-Wal flying boats flew from **MOROCCO** *to* **SPANISH WEST AFRICA** *in* 1926.

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THE COPENHAGEN AERO SHOW.

By Erik Hildesheim.

Concerning the Short-Bristol a request was issued to the following effect re the Mercury power plant :—

" You must not give any dimensions, weights or information about horsepower, the number of r.p.m. nor details of design, other than that there are no restrictions."

After that one cannot deny that the Air Ministry officials possess a fine sense of humour. But furthermore a lesson is learned as to the restrictions manufacturers are up against.

So long as Governments remain their chief customers, the building firms cannot make these annual exhibitions into reviews of the latest models and refinements similar to the many national and international automobile shows.

But it is a great pity that none of the already numerous makers of private sporting and touring machines have seen fit to exhibit the trend of their present catering for private clients. Personally one would have welcomed an opportunity to compare the late Herr Bäumer's Sausewind monoplane doing 211 km. (about 132 miles) with a 60 h.p. Wright engine with the de Havilland Tiger Moth as the British last word in reduced head-resistance and resulting speed for low power.

At the third European International Aero-Show which opened at Copenhagen on Aug. 20 Great Britain scores by showing the only new aeroplane. Hence it is entitled to precedence in description in this short report.

The British section relies upon quality to make an impression more than quantity. In fact the representation is limited to the two radial engine and aeroplane manufacturers.

The Bristol Co. exhibits its latest type 101, a two-seater fighter biplane of the clean design and fine workmanship that one is accustomed to from this old-established firm.

The fuselage is a spruce framework covered with plywood on the sides. The vertical and cross members of the fuselage do not bear directly against the longerons but are fitted into recesses cut in spruce packing pieces which are themselves attached to the longerons.

Those bays of the fuselage which are not plywood-covered, that is, on the top and bottom of the rear portion and the internal bays, are braced with tie-rods.

The pilot's seat is behind the rear spar of the upper wings and has an excellent view all round. The observer's cockpit is immediately behind the pilot's seat, and is fitted with the usual Scarff gun-ring. Both the pilot's seat and rudder bar are adjustable.

The armament consists of two fixed Vickers guns mounted one on either side of the fuselage in troughs, firing through the airscrew, and one Lewis gun on the Scarff ring. 1,200 rounds of Vickers gun and five double drums of Lewis gun ammunition are carried. Provision is made for the installation of parachutes and oxygen apparatus, for both pilot and observer. The total military load is about 396 lbs.

The wings are constructed entirely of metal. The spars are built up of rolled steel strip rivetted together and the main ribs are attached to the spars by detachable clips. The wing compression members are of steel tube.

One set of interplane struts of the " N " type is fitted on either side of the fuselage.

The arrangement of lift and landing wires is a little unusual. There is only one pair of lift wires, and one pair of landing wires, which run to the top and bottom respectively of the middle member of the N strut. Bristol " Frise " ailerons are fitted to the bottom plane only.

The cantilever tail-plane is of wood and is mounted above the fuselage frame. It is adjustable in the air.

The elevators have no external operating levers. A torque tube running through the tail plane is caused to rock by movement of the control column. Levers on the ends of this cross tube have spigots which engage in slots in the end ribs of the balancing horn of the elevators.

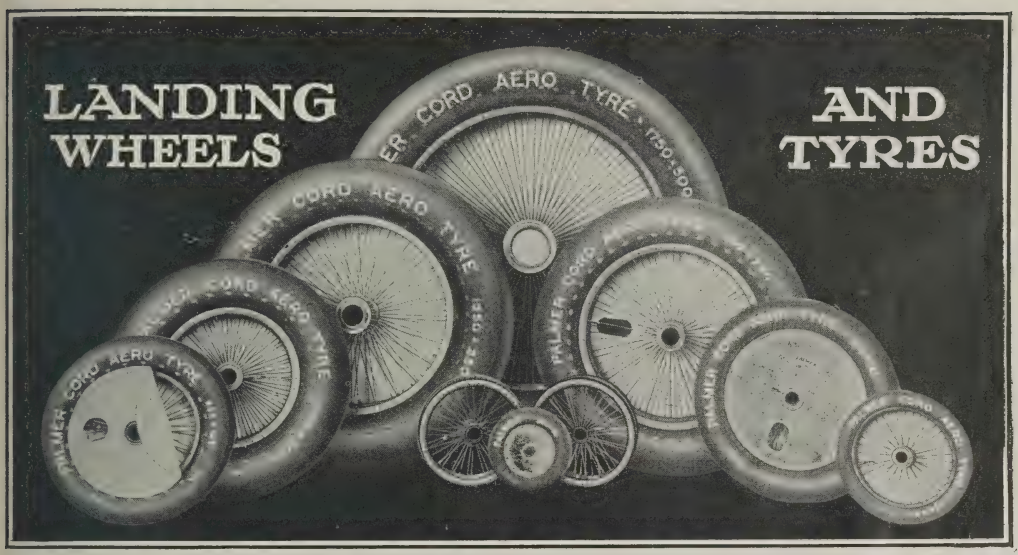
The undercarriage is of Vee type with oleo front legs. The oil pistons have a constant leak which damps out the stroke in both directions. The maximum stroke is about 8 ins. Compression rubbers and steel springs are fitted in the legs above the oil chambers.

Three petrol tanks with a total capacity of 78 gallons are fitted. Two tanks are mounted in the top wings, each of 29 gallons capacity and one of 20 gallon capacity in the fuselage immediately behind the fireproof bulkhead. The oil tank is in the fuselage below the petrol tank and below the oil tank is a self-regulating oil cooler which keeps the oil delivered to the engine at an even temperature by automatically controlling the flow of oil.



THE NEW BRISTOL FIGHTER.—The Bristol 101 high-performance two-seat fighter (450 h.p. Bristol Jupiter VI). This machine was the only new type exhibited at the Copenhagen Aero Show.

PALMER



STANDARD SIZES.

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
700×100	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×200	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

Wheels Nos. 161, 162, 163 and 211 are of stronger type than the other wheels for 800 × 150 tyres. †Wheel No. 169 is fitted with Ball Bearings. Grease gun equipment is now a standard fitting on all wheels.

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The engine is a standard Jupiter Mark VI and is provided with a special exhaust ring and silencer.

SPECIFICATION.

Span ... 33 ft. 7 ins. (10.2 m.)	Power loading 7.85 lbs./h.p. (450 h.p.))3.56 kg./h.p.)
Length ..... 27 ft. 4 ins. (8.32 m.)	Speed, max. ..... 140 m.p.h. (225 km.p.h.)
Height ... 9 ft. 6 ins. (2.89 m.)	
Chord ..... 6 ft. (1.83 m.)	
Gap ..... 5 ft. 3 ins. (1.6 m.)	Speed, stalling ... 60 m.p.h (96 km.p.h.)
Wing area ....., 320 sq. ft. (29.7 sq. m.)	Climb to 10,000 ft. (3,050 m.) 9 mins.
Weight empty ... 2,100 lbs. (954 kg.)	Climb to 20,000 ft. (6,100 m.) 30 mins.
Weight loaded ... 3,540 lbs. (1,600 kg.)	Service ceiling ..... 21,000 ft (6,400 m.)
Wing loading 11.06 lbs./sq. ft. (54 kg./sq. m.)	

In addition the Bristol Co. shows a Jupiter and a Lucifer engine on the stand.

The Armstrong-Siddeley Motor Co. shows the full range of Genet, Mongoose, Lynx and Jaguar aero-engines. This concern is purveyor to the Royal Danish Navy with the Lynx model for the Avro school machines for initial land and seaplane training and with Jaguars in the Danecocks, with others to follow in the triple-engined Supermarine torpedo flying-boat which this Southampton aircraft firm is about to deliver.

Incidentally the Armstrong Co. pay the linguistic skill of the Danes a compliment, when their descriptions are given in English, French and German, but no need for a Danish text is found for an exhibition in Denmark.

The Danish section consists chiefly of the central stands of the Army and Navy. The former exhibits an "O" biplane built at the Army Works. It may best be termed an intermediate type between the Fokker CI and CV. The latter shows a Brandenburg-type seaplane that is still the main Danish naval patrol machine and is together with the six-cylinder vertical in-line water-cooled engine of 160/175 h.p. produced at the Dockyard in Copenhagen, which has also built the Danecock under license from the Hawker Co.

The two-seater "O" biplane is powered by a 220 h.p. B.M.W engine, has a span of 10.3 m., a wing area of 26 sq. m., weighs 1,450 kilos and attains a ground speed of 212 km. or 189 km. at an altitude of 3,000 m. The armament consists of two Madsen guns for the observer and one for the pilot.

The total weight of the naval sea-monoplane is 1,500 kilos with full load and the maximum speed attained 165 km.p.h. The figures given for the Danecock single-seater chaser biplane are: 235 km. maximum speed with the 385/425 h.p. Jaguar engine. Climb 1,000 m. in two minutes, ceiling 8,500 m. Total weight with full load, 1,330 kilos.

An interesting relic is the first Army aeroplane, the beautiful B.S.3 monoplane from 1913 of Antoinette type. It was shown at the last Copenhagen aero show in 1919 and has since increased in historic value.

Both services show further various aircraft parts and auxiliary equipment. The Army shows amongst others photography and wireless cars, the latter with a Marconi Y.B.6B installation.

At the Navy stand may further be mentioned a drogue for keeping a seaplane headed into the wind when on the water.

Other Danish exhibits include one from "Dansk Rekybriffet Syndikat," a small-arms factory in the Copenhagen freeport which manufactures machine-guns on the basis of the Danish General Madsen's invention including aircraft models. A large number have been supplied to various Governments; they are for instance fitted to the military aeroplanes from the Swedish factory at Malmö.

The Danish flight pioneer, T. C. H. Ellehammer, is represented with a retrospective collection of pictures, models and air-cooled radial engines.

The Sports Flying Club shows its first registered training machine, a Klemm-Daimler monoplane, the gift of a patron. This efficient tiny aeroplane is the sole representative of the sporting side of flying and is stated to stand up well to the hardships of school work, though it must be considered too slow for ordinary business touring.

The French participation is the largest amongst the foreign exhibits. Half of the wall space of the new Copenhagen show hall is covered by part of the popular propaganda material of the French Government which came in for deserved acknowledgement at the last Paris exhibition, including the big Penhöet flying-boat picture.

The French section made a somewhat empty aspect at the opening, because neither the announced Lioré and Olivier flying-boat nor the Loire-Gourdou-Leseurre and Potez aeroplanes had turned up. But it can boast the other novelty.

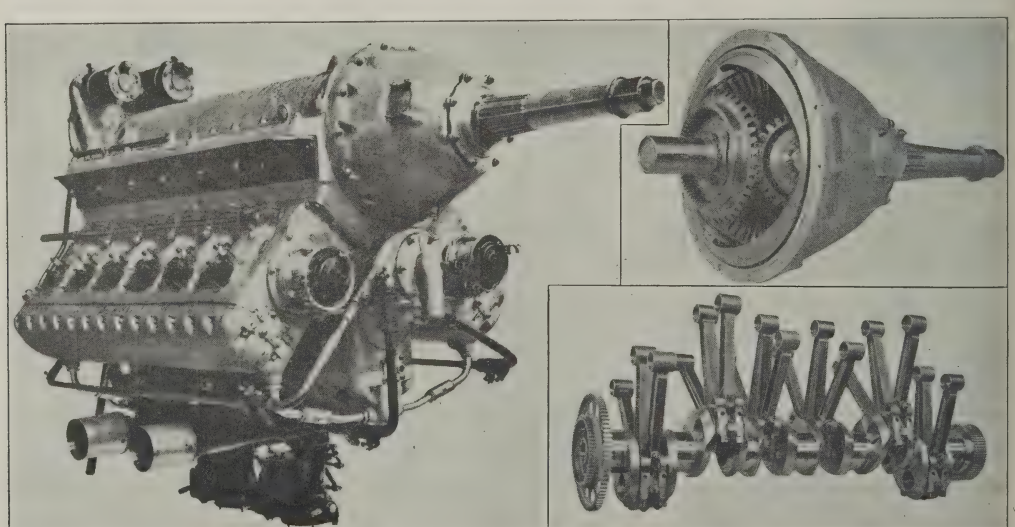
This is the new 700 h.p. Farman aero-engine which has just passed its first successful trials. So a specimen was flown less its interior parts to Copenhagen in the 500 h.p. Farman-engined Jabiru of the eight-passenger *"ventre-à-terre"* cabin monoplane type shown also on the stand.

The new Farman 18-cylinder engine of the inverted type is evidence of the designer of watercooled aero-engines not intending to leave the field to air-cooled radials without a fight. This technical controversy has not been decided yet; the competition proves as usual inciting to mutual advantage.

The Farman aero-engine has during the last years acquired a good reputation for reliability, which applies not least to the reduction gear, the endorsement being in the form of licences taken out for same by the Bristol Co. in England, the Gnôme-Le Rhone Co. in France, the Wright Co. in America, and the B.M.W. Co. in Germany.

In the new Farman aero-engine car engine practice of increasing the power by raising the number of r.p.m. has been followed. The inverted type has been chosen for various reasons, including the advantages of improved visibility, and easier mounting of guns accruing, but chiefly with the object of keeping the crank and airscrew shaft high. The benefit derived can be utilised partly in form of a larger airscrew of better efficiency and partly by reducing the landing gear.

The broad arrow arrangement has been retained for the three blocks of six cylinders, which are of reduced dimensions. The bore and stroke of 110 mm. by 125 mm. respectively compares with the corresponding figures of 130 mm. and 160 mm.



THE ONLY NEW ENGINE.—The 700 h.p. Farman, 18-cylinder inverted engine. On the right is seen the de-multiplying gear-box, with the connecting-rod assembly below it.

SHORT ALL-METAL



SINGAPORE FLYING BOAT

DESIGNED and built by the pioneers of British all-metal aircraft, the "Singapore" is the largest and most successful super flying-boat of all-metal construction yet produced.

IN range of flight, speed, and weight carried, it is possibly without equal in the flying-boat world; and possesses an unusual degree of automatic stability.

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for the 500 h.p. engine. As a result the compression ratio has instead been raised to 6 without fear of detonation, and the lineal speed of 11.7 m. per sec. of the pistons is almost the same as in the 500 h.p. engine.

Compared with the latter the piston weight has been halved; those in the 700 h.p. engine are made of Alpax which is an aluminium alloy similar to Alferium. The pistons, the crankshaft and master rod and auxiliary rods are all of orthodox type. The crankshafts rest in seven bronze bearings with duralumin caps.

Owing to the small cylinder dimensions a spur-wheel gear drive of the camshafts has been adopted instead of the usual shaft and bevel gear drive. As a result of the large number of cylinder battery ignition is employed instead of magnetos.

The epicyclic gear is only fitted with three satellites. It gives a reduction of 1 :2.5. With the engine turning at 2,800 r.p.m. and giving 550 h.p. this corresponds to an airscrew speed of 1,100 r.p.m.

At 3,400 engine revs. the horsepower is 730. The net engine weight is 318 kilos. In addition the reduction gear weighs 40 kilos, the airscrew hub 12.5 kilos, the ignition batteries 6.5 kilos, the petrol pump and its drive 5.8 kilos, the self-starter 7.5 kilos, two 200 watt generators 13 kilos. Complete the engine weight is given at 421.8 kilos.

The overall dimensions are : length 1.61 m.; breadth, 78 m.; height, 1.08 m. If a Rateau supercharger is fitted the length is increased to 2.03 m. The nominal horsepower should then be maintained to a height of 5,500 m. The engine gives at that altitude 600 h.p. less 20 h.p. for the drive of the supercharger, but 40 h.p. are recovered.

The supercharger is driven by a multiplicator of 7 to 1 ratio and engages automatically by means of a single-disc clutch which is stated to engage in 10 secs. without requiring the attention of the pilot.

Morane-Saulnier exhibits a 120 h.p. Salmson-engined school and touring parasol monoplane, which was flown to Copenhagen by Tronval for demonstration.

The German Society of Aircraft Manufacturers is represented with the collection of models that was previously shown at Milan and Prague, including a B.M.W. and a Siemens engine and a few aircraft parts.

The Czecho-Slovakian participation of models was still en route by rail at the opening of the show.

The *Administration de l'Aéronautique* of the *Ministére des Chemins de Fer, Marine, Postes Télégraphes et Aeronautique, Bruxelles,* has a Belgian stand of propaganda maps and pictures.

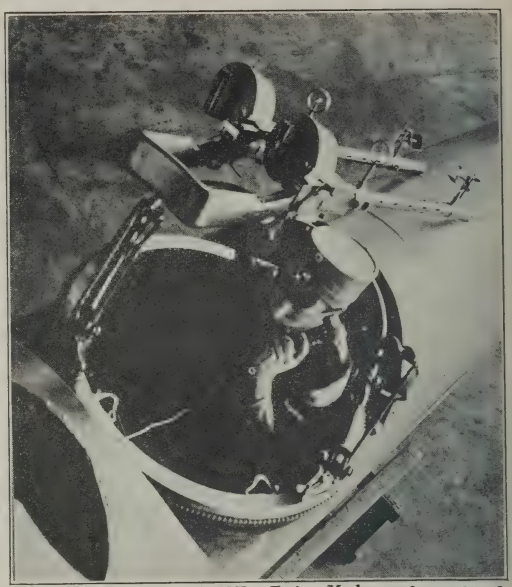
So has the *Ministerie van Waterstaat,* the Hague, with regard to the Amsterdam and Rotterdam airports. The K.L.M. has also a stand like the Danish D.D.L. and Swedish A.B.A. air transport companies.

L'Aeronautica Italiana is chiefly represented by airship models.

The Royal Swedish Aero Club shows the memorial exhibit of André's balloon venture to the North Pole.

The local newsheets reported that the show management endeavoured up to the last minute to induce the representation of the Fokker VIII twin-engined or a Junkers three-engined modern commercial monoplane. But none could be spared from the services. Instead the Flygindustri factory, the Swedish licencees for Junkers, showed a model R.42 fighter and bomber.

If pacifists will rejoice and take this as a proof that it is more profitable to pursue peaceful lines, the Germans can point to the fact that not only were the Allied commercial air services hampered in the beginning by the adoption of war type aircraft, but that now an efficient civil aeroplane type can with advantage be arranged for war work with two gun cockpits and the provision of a third gun lift to do away with the blind spot below the aeroplane.



A PEACE INSURANCE.—Twin Madsen guns on a Danish Aeroplane.

A batch of six Junkers bombers of this type have been supplied to Chile, one such demonstration machine to Turkey and twenty more elsewhere.

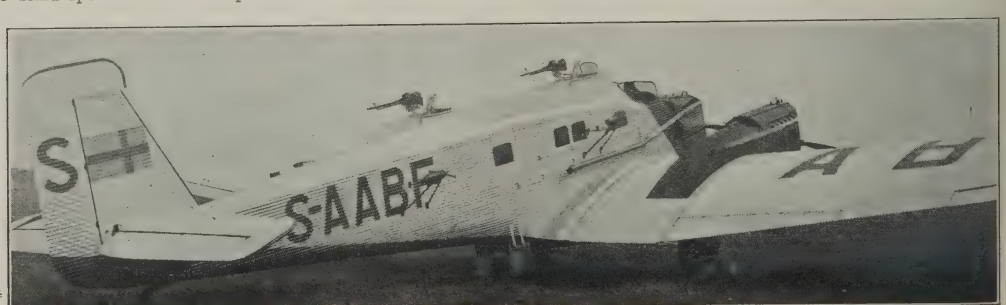
The main particulars are : Span 29.9 m., length 15.3 m., height 4.3 m., speed 176 km., weight empty 3,784 kilos, useful load 2,716 kilos, climb to 1,000 m. in 7 minutes 4,150 m.

The Copenhagen aero-show will remain open till Sept. 2, after which there will be a flying meeting on the fourth. The latter may prove the more impressive part, and it is a question whether this form is not altogether the best for display of modern aeroplanes, and should incidentally also prove the cheapest way, if reasonable insurance rates can be had, as petrol and oil are then the only other expenses.

At any rate the various countries pay a noteworthy amount of attention and interest to the flying visits by endeavouring to send their most brilliant star turns. An Italian squadron is expected which may include General de Pinedo. France has announced an official trip of some flying-boats to include Lieut. Bernard on his Lioré and Olivier flying-boat.

So far Vice-Admiral Frochot, head of the French Naval Air Service, has turned up in Latham flying-boat in a squadron of three seaplanes on the opening day of the show. Dutch naval Brandenburg monoplanes are coming and yesterday the four British modern multiple-engined large flying-boats arrived to schedule.

Sir Samuel Hoare cannot fail to make a healthy impression by the fine British example of continued courage shown by a gentleman in such a high position of responsibility as his. Sir Samuel's visit in the D.H.34 biplane during the Gothenburg aero show some years ago has not been forgotten. The papers also remind their readers of the pioneer trip to the East that has meanwhile taken place in the Hercules. Now the British Air Minister endorses once more his continued advocacy of aerial travel. The lesson cannot fail to be taken to heart.



PEACEFUL PENETRATION.—The Swedish-built Junkers R.42, developed from the G.24, and made into a war machine by simply adding gun-pits on top and a gun-trap below.

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A Squadron of Vickers "Vernon" (Napier Lion Engines) Troop Carrier and Ambulance Aircraft in Iraq, where they are employed by the Royal Air Force in the maintenance of our Imperial Lines of Communication.

R.A.F. Photograph. Crown Copyright Reserved.

THE SCHNEIDER CHALLENGERS.

The first batch of machines intended to take part in the Schneider Trophy Contest left Southampton Docks on the Admiralty collier *Heworth* on Aug. 17. These included the *Crusader* two Supermarine S 5s, and one Gloster. Apparently the third Supermarine is to go direct to Malta later.

The British team, or at any rate the major portion of it, is due to leave Victoria Station at 09.00 hours on Aug. 28 in case anybody would like to give them a parting cheer.

Since the recent Press visit to Calshot there has been practically no suitable flying weather to test machines. Consequently all the final trying-out will have to be done at Venice, so there seems every prospect that as usual we shall finish building our machines on the starting line. But to the credit of the firms concerned, it must be said that this is no fault of theirs.

The first machines were built in heaps of time to test them and discover anything that could possibly go wrong. But first of all sending the High Speed Flight to Felixstowe prevented a lot of the test flying that ought to have been done, and then when the team went to Calshot the weather had settled into its present state of beastliness, and though flying has been possible it has not been as prolonged or searching as it might have been.

Still, we must hope for the best.

L'AFFAIRE LEVINE—DROUHIN.

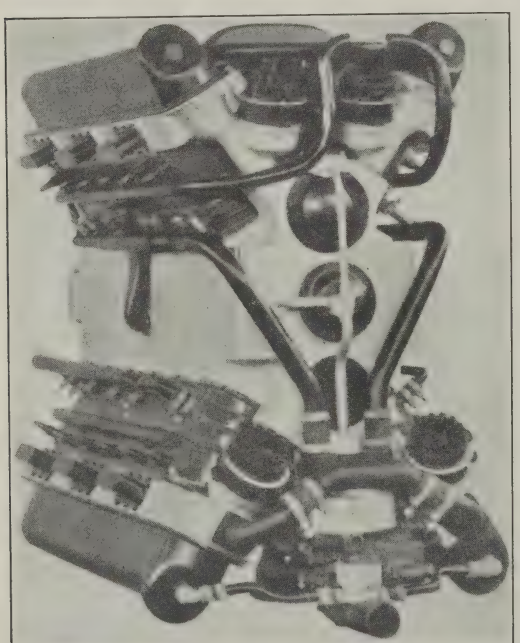
The Bellanca monoplane, *Miss Columbia,* is now starring in a screaming comedy at present being presented at Le Bourget.

To attempt to enumerate the hero, villain and comedian would only pain or enrage the individual characters, so one will only give a synopsis of the affair and leave it at that.

As is known Mr. Chamberlin and Mr. Levine flew from New York to Eisleben, Germany, and thence to Kottbus, Berlin, Prague, Vienna, Paris and London, where they fell out (with each other, not of the machine).

Thereafter the news was broadcast that Mr. Levine wanted to return to America by air. But Mr. Chamberlin, very wisely, decided that, insofar as he was concerned, there was nothing doing. Mr. Levine made a beautiful financial gesture to M. Drouhin, the chief pilot of the Farman company, who at the time was preparing to fly the Atlantic for that company on a Farman biplane known as the *Oiseau Bleu.*

Money, the downfall of many, resulted in M. Drouhin transferring his allegiance from the old firm to Mr. Levine The statement has been made that the bait amounted to 300,000 francs.



FRONTAL AREA.—A three-quarter rear view of the mock-up of the Packard 24-cylinder X-2750 engine. It is being used in the racing seaplane built for Lieut. Alford Williams, U.S.N., which may compete in the Schneider Trophy Competition. Its weight (dry) is 1,475 lbs. and it has developed 1,230 h.p. on test. The compression ratio is 7½ to 1.

M. Drouhin flew Mr. Levine back from London to le Bourget, but on being asked to fly Mr. Levine to Nottingham for the King's Cup Race, he refused, stating that he had been hired to fly across the Atlantic and not *faire du taxi.* [One may believe that M. Drouhin has second sight, and so visualised Nottingham without having been there.—C. G. G.]

In the meantime Mr. Levine had received numberless requests from pilots of all nations to be allowed to fly the machine, so M. Drouhin, feeling that his chances might slip away, began serving writs on Mr. Levine binding him to keep his contract. Then it was reported that all difficulties had been smoothed over and that *Miss Columbia* would leave Le Bourget for New York on Aug. 15.

On Aug. 6 Mr. Levine complete with lorry arrived at Le Bourget to remove the reserve engine and ship it to America. But he was prevented from doing so by M. Drouhin, who had seals fixed by the legal authorities to prevent the removal of any part of the machine.

Mr. Levine retaliated by affixing seals to the shed to prevent the machine from flying off without him. [Apparently others besides the Newfoundland folk have gone in for aeroplane sealing as a business.—C. G. G.]

Finally, a difference of opinion between Mr. Levine and M. Mathis, a *mécanicien,* led to blows.

Exactly, who is the hero, if any, and/or the comedian, one hesitates to choose. But judging from the tone of a certain French journal our Mr. Hinchliffe is certainly a villain for offering to pilot the *Miss Columbia* for honour and glory instead of for fee or reward.

LONDONT—LONDENG.

Messrs. T. B. Tully and J. V. Metcalf, the pilots chosen for the attempted flight from London, Ont., to London, Eng., have been making several tests on the machine they are to use, rumoured to be a Stinson monoplane with Wright Whirlwind engine.

They have satisfactorily got off with 80 per cent. full load and have made several cross-country practice flights. They are now awaiting satisfactory weather reports.

"THE AEROPLANE" FOR SOUTH AFRICA.

Next week's issue of THE AEROPLANE, dated Aug. 31, will be devoted chiefly to aviation in South Africa. The special Australian and Canadian issues of THE AEROPLANE which have already appeared have been so highly appreciated by the aeronautical people of those countries, and have been so largely quoted in the Australian and Canadian press by way of promoting local airmindedness, that there seems every justication for producing a special South African issue.

Those interested in aviation will remember that on the occasion of his visit to South Africa Sir Alan Cobham emphasised the immense possibilities of flying in South Africa, and the intention of this issue is to follow up the good work which he and other pioneers of flying, such as Lt.-Col. van Ryneveld and Sq. Ldr. Brand and the two R.A.F. Flights have already done in the Southern portion of the Dark Continent.

Those who wish to have copies of the special South African Issue are advised to order them in good time from their newsagents, as both the Australian and Canadian issues were sold out soon after they appeared.

THE CAIRO—BASRA AIR SERVICE.

The Middle-East Air Service of Imperial Airways continued to run with complete regularity during July. The total mileage covered in that month was 10,183, occupying 114.19 hours.

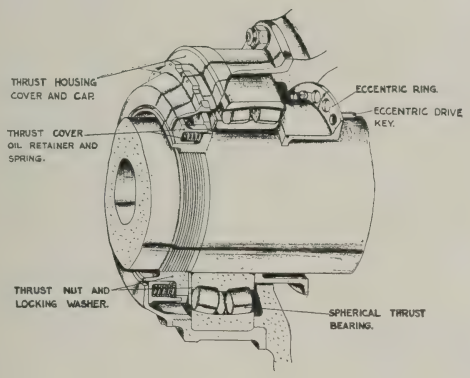
The earthquake of July 12 was felt very strongly at Gaza, where the station superintendent had all machines wheeled into the open lest the sheds should collapse on them. Fortunately none of the aerodrome buildings was damaged, though other buildings at Gaza were badly cracked.

The imposition of five days' quarantine on all travellers passing through Basrah as the result of an outbreak of plague has quite unexpectedly shown a new advantage to the credit of air transport. A certain Arab dignitary, returning from a pilgrimage, found that travelling by the normal methods would let him in for the said five days of quarantine at Basra. He accordingly hired an Imperial Airways special, which circumnavigated Basra and landed him on a convenient islet in the Persian Gulf, from which he was picked up by a passing boat and was able to continue his journey.

High winds and sandstorms occur with great frequency and regularity on the route between Baghdad and Basra at this season. 'Imperial Airways' pilots have found that in this particular type of weather the strength of the wind often decreases very markedly at high altitude—in direct contrast to our habit here, where we fly low to get out of the wind. When there is a strong head wind at the ground it often pays along the River Route to go up to as high as 10,000 ft. to get out of it.

There is interest in noting that on the Khartoum-Kenya Route there is an almost permanent North wind at 10,000 ft. or so, and an almost permanent South wind low down,—so that Nature provides an Up and Down line.

FEATURES IN THE DESIGN AND CONSTRUCTION OF THE "Bristol" JUPITER SERIES VI RADIAL AIRCOOLED ENGINE



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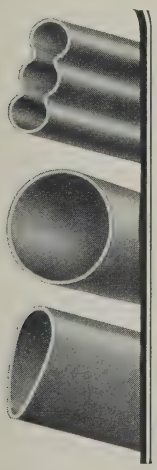
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The special Skefko double row spherical roller bearing housed in the front end of the crankcase, is a double purpose bearing, taking the thrust load of the propeller and the journal load of the front end of the crankshaft.

It does away with the separate thrust and journal bearings otherwise necessary, simplifying the assembly with a consequent saving in weight.

An outstanding advantage is the abolition of the delicate fitting operations required with the conventional thrust race, and the freedom from the danger of a collapsed ball-race due to the bearing being nipped up too tightly when assembling.

The spring loaded bronze oil retainer completely seals the front end against oil leaks and permits the bearing receiving a generous oil supply from the engine, with the result that the life of the bearing is indefinitely prolonged.



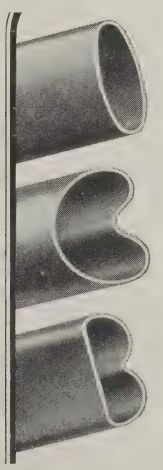
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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Aug. 21.

Flying time.—25 hr. 35 min. *Instructors.*—Messrs. F. G. M. Sparks and S. L. F. St. Barbe. *Instruction.*—E. K. Broderick, G. Black, H. S. Greenland, L. C. Fisher, S. Pritchard-Barrett, L. W. Gibbens, L. Martin, W. L. M. O'Connor, E. E. Fresson, S. W. Radbone, R. G. Whalley, J. G. Crammond, J. H. Percy, J. H. Veasey, R. L. Portway, M. P. Susman, E. L. Clarke, B. B. Tucker, M. D. Hamilton, Miss Wilson, Col. Farfan, F. C. Elford, A. S. Richardson, Dr. Cook, Mrs. Cook. *Soloists.*—D. H. P. Esler, E. E. Fresson, F. G. Crammond, E. T. Symmons, R. L. Portway, L. W. Gibbens, A. F. Wallace, B. B. Tucker, J. J. Hofer, Sq. Ldr. M. Wright, J. Pritchard-Barrett. *Passengers.*—Mrs. Pritchard-Barrett, G. H. Black, R. N. Gregor, S. Simon, L. C. S. Pool.

G-EBKT Accident.—On Sunday afternoon Flt. Off. Stanley Pritchard-Barrett flying on D.H. Moth G-EBKT with his wife as passenger, crashed just outside Stanmore. The pilot and passenger were both taken to the Hospital and the extent of their injuries is not yet known. The Club Moth is apparently a complete write-off.

Two Years' Record.—The London Aeroplane Club has now been in existence two years and the following results have been achieved:—

First year, ending July, 1926.—Total Flying Time, 1,153 hr. 15 min.

Second year, ending July, 1927.—Total Flying Time, 1,747 hr. 50 min.

79 of its Members have qualified for Air Ministry Licences.

15 Members who have been trained *ab initio* by the Club have acquired their own aeroplane, and at the present time there are 20 aeroplanes privately owned by members of the Club.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Aug. 20.

The club has been closed for staff holidays and machine overhauls. Flying begins again this week with one Avian and one Moth. The other two machines are held up pending the receipt of a spare engine and spare parts from A.D.C.'s.

Arrangements are well advanced for the flying meeting at Hooton Park aerodrome on Sept. 24. The meeting is organised by the City of Liverpool in connection with their Civic Week and the flying arrangements are in the hands of the Club.

The aerodrome at Hooton Park is probably ideal for the holding of a flying display, with ample accommodation for all machines, 200 acres of good landing surface, easy accessibility to Liverpool, Birkenhead and the Mersey-side population generally, and a situation which makes it practically impossible to get a good view of the pageant except from the enclosures. Liverpool expects a crowd of 100,000 and this, given reasonable weather, does not seem over-optimistic.

It will be seen that the total prize list is already in the neighbourhood of £400, excluding the value of the cups to be won outright in events 1 and 2 and the replicas of the cups in events 5, 6 and 7.

We are more than sorry that our open meeting this year should clash with the second meeting of our friends, the Newcastle Club, but the date is not in our hands to fix and the Liverpool authorities inform us that their arrangements are too far advanced for any alteration in the date to be possible.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Aug. 21.

Flying Time.—26 hr. 25 min. *Instruction with Mr. Parkinson.*—Messrs. Sadler, Bullock, J. M. Kennedy, Leech, Irving, Horne, Wardill, Shaw, Lawson, White, Heppell, Turnbull, Fairless. *With Mr. Simpson.*—Miss Leathart, Messrs. Shaw, Sadler, Maxwell, Lawson. *Soloists.*—Messrs. Jewett, Bullock, J. M. Kennedy, Maxwell, Wilson, Heppell, Mrs. Heslop. *"A" Pilots.*—Flg. Off. Dawson with Mrs. Dawson, Mr. Snowdon and Mr. McIntyre. Miss Leathart with Miss Slade. Mr. C. Thompson with Mr. Heslop, Mr. Luckman and Mr. Bulmer. Dr. Dixon with Mr. A. Bell. Mr. Mathews with Dr. Mathews. Mr. Phillips, Mr. Elmes, Mr. Turnbull and Mr. Stawart all flew alone. Mr. A. Bell with Mrs. Bullock. *Passenger with Mr. Simpson.*—Mrs. Fairless.

Mr. F. H. P. Simpson, an Instructor at the Central Flying School, is spending a holiday in the district and comes across to the aerodrome to assist Mr. Parkinson with instruction.—Truly a 'busman's holiday.

All flying was done on one machine (QV.), the second Moth (LX) being under repairs and overhaul for renewal of C. of A. This machine will be flying next week-end, probably on Saturday, the 27th.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Repot for week ending Aug. 20.

Flying Time.—8 hr. 14 min. *Instruction with Mr. McDonough.*—N. Crane, J. C. Chaytor, R. S. Brinton, H. J. Willis, Capt. J. E. Brewin, G. Robson, J. Edwards. *Soloists.*—W. Swann, C. Fellows, J. Edwards, G. V. Perry, H. J. Willis.

Bad weather throughout the week has restricted flying.

The Yorkshire Aeroplane Club.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]

Report for week ending Aug. 20.

Total Flying Time.—20 hr. 45 min. *Dual with Mr. Beck.*—11 hr. 40 min. *Dual with Mr. Coles.*—50 min. *Solos.*— 5 hr. 55 min. *Cross-Country.*—2 hr. *Joy-Rides.*—20 min. *Instruction with Mr. Beck.*—Messrs. Bailey, Humphries, R. K. Lax, Stell, Ellison, Miss Watson, Dujardin, Ten Bos, Rhodes, Brown, Tattersall, Yeomans, Milestones, Crouther, Birch. *Instruction with Mr. Coles.*—Messrs. Fitton, Mason. *Soloists.*—Messrs. Thomson, Lax, Clapham, Birch, Rhodes, Brackenbury, Atcherley.

On Tuesday Miss Woodhead passed her test for her "A" licence, the one bright spot in an otherwise barren week.

We are of the opinion that the hull lines of the Moth are capable of considerable improvement, especially in the region of the chine, our experience being that this machine throws up far too much spray in the take-off. This fault has, no doubt, been remedied in the X type.

[All the same, and despite the marine qualities of the Sherburn aerodrome, one can hardly call it a barren week with 20¾ hrs. flying time. Yorkshire is too modest.—C. G. G.]

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

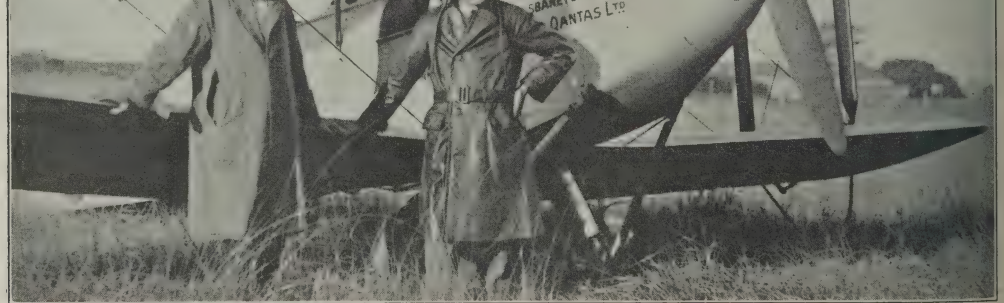
Report for week ending Aug. 21.

News.—The Club was closed from Monday, 8th, to Monday 15th—holiday for staff.

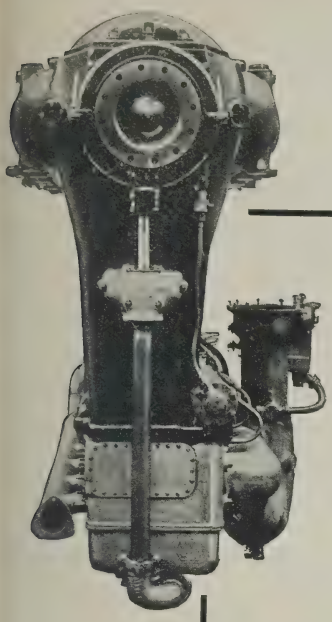
Really terrible weather conditions this week.—Rain and gales. Don J. de la Cierva flew to Sea View, Isle of Wight, for lunch, on Friday, taking Miss Ruwe, of Los Angeles, as passenger. No aeroplane has landed on the sands at Sea View for at least seven years so this opportunity was immediately taken by crowds of holiday makers who surrounded the machine armed with cameras. The local sale of Kodak films was very much increased. During the week we have had the pleasure of entertaining Mr. H. Pargeter, of the Newcastle Club, and Mr. Lazalet, of the Midland Aero Club. We are always happy to receive visits from the members of any of the Clubs.

We had a visit on Sunday the 21st, of Lieut. Ranald, R.N., and Mrs. Ranald. Mrs. Ranald holds the Royal Aero Club certificate and has now joined this Club for the purpose of obtaining her "B" licence.

Flying Time.—16 hr. 45 min. *Instruction.*—9 hr. 50 min. *Soloists.*—5 hr. 35 min. *Passengers.*—40 min. *Tests.*—40 min. *Instruction with Mr. Thomson.*—Miss M. M. Home, 1 hr. 10 min.; Lt.-Com. G. W.



THE LIGHT AEROPLANE IN QUEENSLAND.—Mr. L. J. Brain (right), the Instructor, and Mr. G. E. Sampson, the first pupil to go solo in the Brisbane Flying School, which is run by Quantas Ltd.



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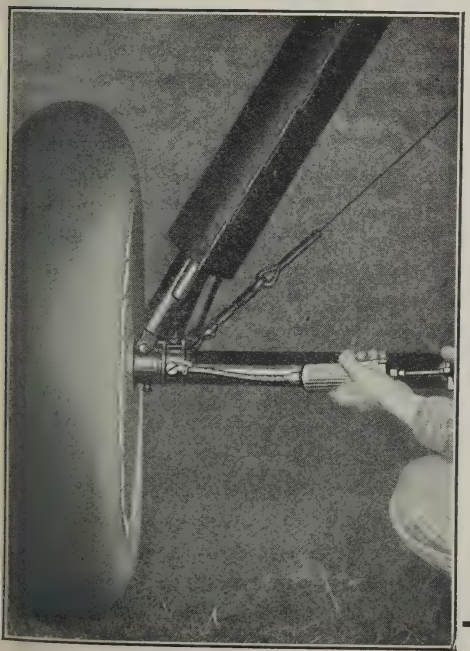
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Woodhouse, 30 min.; Capt. Molyneux, 25 min.; Lt. J. H. P. Graham, R.N., 5 min.; Messrs. Ellis-Wood, 2 hr. 10 min.; N. B. Wells, 50 min.; W. H. C. Blake, 25 min.; W. T. J. Stanford, 45 min.; B. Whittle, 55 min.; A. L. Fortlage, 45 min.; W. Clymo Southcliffe, 45 min.; H. Pargeter, 15 min.; T. Williamson, 30 min.; E. W. H. Dobson, 5 min.; Crook, 15 min. *Soloists.*—Don Juan de la Cierva, 2 hr. 40 min.; Lt. J. H. P. Graham, R.N., 10 min.; Flg. Off. H. F. G. Southey, 10 min.; Messrs. L. A. W. Deane, 20 min.; K. P. L. Bowen, 30 min.; R. Sanders Clark, 55 min.; H. Pargeter, 25 min.; E. W. H. Dobson, 25 min. *Passengers with Mr. Thomson.*—Miss Blake, 10 min.; Mr. Savage, 15 min.; Mr. Saunders, 15 min. *With Don Juan de la Cierva.*—Miss Ruwe, 1 hr. 20 min.; Mr. J. G. Gordon, 10 min. *With Mr. K. P. L. Bowen.*—Mrs. Fortlage, 20 min.

The Bristol and Wessex Aeroplane Club.

[Sec.: C. S. Clarke, Channell Road, Clevedon, Som.]

Report for week ending Aug. 13.

Flying Time.—17 hr. 45 min. *Instruction with Mr. Bartlett.*—Miss Pitman, Miss O. Miles, Messrs. R. S. Clarke, C. H. Brewer, H. H. Bromham, F. J. Bishop, A. H. Downes-Shaw, A Hall, J. Pitman, P. Pitman, A. E. Russell, H. A. Tiarks, Welch. *Solo.*—Mr. E. Hopper, 10 min. *Solo with passenger.*—Mr. Shaw, 20 min.

(Either Mr. Shaw or his passenger must be Irish.—Ed.)

The club received visits from representatives of the *Western Daily Press* who were entertained and given flights. One cross-country flight was made by Mr. H A. Tiarks and Mr. Bartlett. The Brownie kindly presented by the Bristol Aeroplane Company was received during the week. The weather has not been favourable for flying.

Report for week ending Aug. 20.

Flying Time.—11 hr. 55 min. *Instruction with Mr. Bartlett.*—Miss Miles and H. Pitman, Capt. F. S. Barnwell, Messrs. H. H. Bromham, A. H. Downes-Shaw, R. A. Hall, J. Pitman, P. Pitman, H. A. Tiarks, J. H. Gilchrist. *Soloists.*—Mr. E. Hopper, 30 min. *Passengers.*—Mr. E. Hopper and Mr. Maggs.

Flying was impossible on Monday and Saturday.

The Tunbridge Wells Club.

The proposed inaugural meeting of the Tunbridge Wells Aero Club was, unfortunately, washed out on Saturday last. By 14.30 hours, when the display was timed to begin, there were, in spite of the weather, twenty or thirty cars ranged along the road, and quite a goodly crowd of people at the field which was intended for an aerodrome. One arrived some time after 15.00 hours, knowing that the weather must have stopped the show, and found that the crowd had been dissolved, leaving only the organiser, Mr B. D. Winser, and a few insoluble friends.

While one was there a Moth hove in sight, looking much more like a submarine than an aeroplane, and after having a look at the field went away again, as one did oneself. One hears, however, that Mr. Jackaman of Slough arrived on a new X Moth, G-EBRT, after an adventurous voyage, and got safely away again.

The ground selected for the display was all right for really experienced pilots, and if the weather had been fine probably the show would have done quite good work. But it is not a field one would recommend for beginners. It is high and telegraph wires run all along the windward side of it, with small fields and big trees and a deep valley beyond them. And in the other direction it is up hill. However, Mr. Winser says that the ground selected for the proposed aerodrome of the Club is at the other end of Tunbridge Wells up on the weald with a good clear run in every direction over country just like that round Penshurst. One hopes that the proposed Club will have better luck next time.—C. G. G.

A Liverpool Meeting.

Liverpool, which one believes is still the second greatest city of the British Empire, is organising a Civic Week, and the celebrations will open on September 24 with a flying meeting at Hooton Aerodrome. The flying is being organised in conjunction with the Lancashire Aero Club, and there are hopes of forming a Merseyside Aeroplane Club on the day of the meeting.

There is no doubt that sooner or later Liverpool must have a flying club of its own, and though at first sight one might think that every member joining a Liverpool Club would mean one member less for the Lancashire Club, one must remember that Woodford Aerodrome is some distance from Liverpool, and that, when Liverpool becomes air-minded and lots of local sportsmen want to fly, they will not want to journey by road to Woodford to do their flying.

On the other hand, a strong club in Liverpool may very well be a good thing for the Lancashire Club by promoting competition, which is always good for trade. Also, people who house their machines at Hooton, or wherever the Liverpool Club has its aerodrome, will find Woodford a handy place to go to for short cross-country flights, and so the clubs may very well work together for their mutual advantage.

There does not seem to be any fear that the existence of a flying club on Merseyside will in any way damage the Lancashire Club. In fact, it should greatly stimulate the airmindedness of Lancashire. At Hooton, Liverpool, can have a flying ground practically in the middle of a population of one and a half million people. And one gathers that the organisers of the Club have a long list of people who wish to join. The Merseyside Club will have the advantage of the backing of two very rich municipalities, Liverpool and Birkenhead, as well as the support of shipping companies and commercial interests.

As proof that there is no antagonism whatever between the Lancashire Club and the proposed Merseyside Club, one may mention that the Liverpool organisation is paying the expenses of the meeting, and that if any profit accrues, 50 per cent. of it will go to the Lancashire Club as a reward for helping in the organisation. The other 50 per cent. will go to the Merseyside Club for development expenses.

The events arranged at Liverpool are as follows:—

(1.) Liverpool Civic Week Cup and Stakes—£100. *High Power Handicap.* Open to any type of Aeroplane with engine developing not less than 100 h.p. at maximum permissible r.p.m Open to all Pilots. Course approximately 30 miles. First Prize, Liverpool Cup (valued £50) and £50 Cash. Second Prize, £30. Third Prize, if four or more starters, £20.

(2.) Hooton Park Handicap and Stakes—£35. Open to any type of Aeroplane fitted with Mark I. Cirrus Engine. Open to all Pilots. Course approximately 10 miles. First Prize, £20 Second Prize, £10. Third Prize, if four or more starters, £5.

(3.) Low Power Handicap (*for Birkenhead Cup and Stakes*)—£75 Open to any type of Aeroplane, the total displacement of the engine of which does not exceed 1,600 c.c. Open to all Pilots. Course approximately 30 miles. First Prize, Birkenhead Cup and £40. Second Prize, £25. Third Prize, £10, if four or more starters.

(4.) Ladies' Purse—£40. Open to any type of Aeroplane. Open to Lady Pilots only. Course approximately 10 miles. First Prize, £25. Second Prize, £10. Third Prize, £5, if four or more starters.

(5.) Landing Competition (*for Sir Chas. Wakefield Trophy and Stakes*)—£30. Open to all Clubs associated with the Royal Aero Club. Each Club may enter one Aeroplane, which must be the property of and registered in the name of the Club entering. Pilots must be *ab initio* trained members of the Club entering. First Prize, £15. Second Prize, £10. Third Prize, £5, if four or more entrants.

(6.) Inter-Club Members' Race. *For Mrs. John-Leeming Challenge Cup and Stakes*—£30. Open to all Clubs associated with the Royal Aero Club. The aeroplanes must be the property of and registered in the name of the Club entering. Pilots must be members of the Club entering. (Paid Instructors excluded.) Course 10 miles. First Prize, £15. Second, £10. Third, £5, if four or more starters.

(7.) Open Handicap Race (*for S. E. Rodman Cup and Stakes*)—£75. Open to any Standard British Machine. Open to all Pilots. Course 30 miles. First Prize, £40. Second, £25. Third, £10, if four or more starters.

Full particulars and entry forms can be obtained from J. C. Cantrill, 100 Oxford Road, Manchester, or Matthew Anderson, Civic Week Secretary, 3 Lord Street, Liverpool.

AN AVIAN FOR JO'BURG.

On Tuesday, Aug. 23, while The Aeroplane was going to press, an Avro Avian was officially delivered to the Shell Petrol Co. of South Africa. The Directors of that firm have bought this machine to present it to the Johannesburg Light Aeroplane Club. One hopes to publish photographs of the machine and to describe the accompanying proceedings in the South African issue of The Aeroplane next week.

A SPORTING EFFORT.

Messrs. I. H. McClure and S. L. F. St. Barbe, of the London Club, who left Stag Lane on Mr. McClure's Moth on July 29 with the intention of visiting fourteen different countries in fourteen days, ended their tour prematurely on Saturday evening, Aug. 6, at Rakos, near Budapest.

They had, according to *The Times'* correspondent, landed in a small field to inquire the whereabouts of the local aerodrome, and suffered some misadventure in taking off again, which led to writing off their undercarriage.

Neither of the occupants was hurt, but the Moth will return to England by surface transport for repairs.

Prior to the accident the tourists had visited France, Spain, Italy, Yugoslavia, Austria and Hungary, crossing both the Pyrenees and the Alps twice.

INCREASING AIRMINDEDNESS.

Lord Ossulston did some good work for the airmindedness of the Midlands during the Nottingham Meeting, and incidentally proved still further the usefulness of his hard-worked Moth. On the Saturday he went down from Stag Lane to Nottingham in 1 hr. 8 mins., and thereafter did some exhibition flying and balloon bursting. On Sunday morning he did a cross-country flight from Nottingham to Market Drayton and back, 56 miles each way. And on Sunday afternoon he took up 30 passengers at 10s. a head.

On Monday, during the racing, he was taking up passengers all day. Altogether he made 67 flights. In three of these the passenger was a grown-up person carrying a small child with him or her, making altogether 70 passengers in 5 hrs. 6 mins. flying time.

On Tuesday morning he gave two more passenger flights (making just over 100 passengers in all) before starting back to London. And he did the journey of somewhere about 120 miles in 1 hr. 20 mins. A good performance for the Moth.

"SO BRACING."

The Skegness Urban District Council are to be congratulated on their foresight in considering the provision of an aerodrome near the town in their Town Planning Scheme. The selection of Skegness as a turning point in the Race for the King's Cup this year evidently brought home to the Council the possibilities of visitors arriving by air, and they approached the Royal Aero Club to assist them in selecting a suitable site.

An experienced aviator has visited Skegness and a suitable site has been selected. It is hoped that other towns will follow this excellent example, for there is always a possibility that in years to come we may have a Summer such as will tempt people to fly to the sea-side.

AMERICA—AUSTRALIA.

An announcement has been made that Mr. Lang, Premier of New South Wales, has decided to increase the grant to the Australian trans-Pacific pilots from £9,000 to £10,000, in order to enable them to purchase a three-engined Fokker monoplane which has been offered to them.

HANDLEY PAGE

SLOT AND AILERON CONTROL.

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Bryant and Gates,
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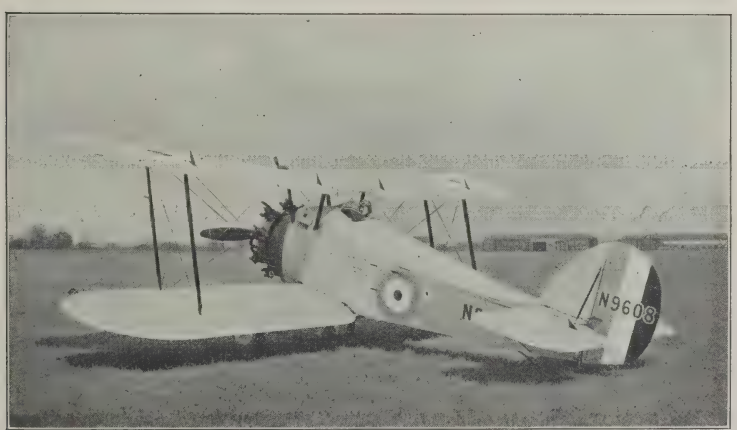
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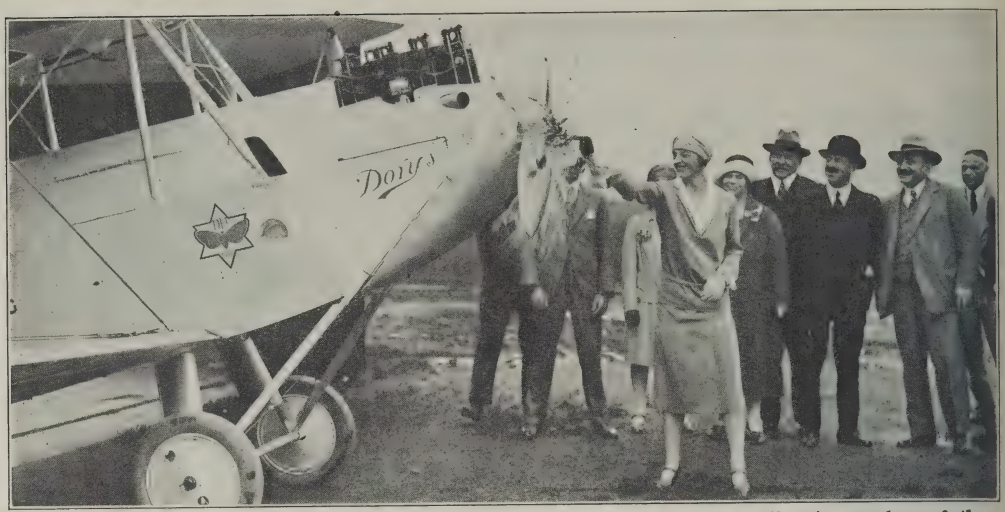
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KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.



CAUGHT IN THE ACT.—Lady Bailey breaking a bottle of South African wine over the airscrew boss of the D.H. Moth. From left to right the personalities are :—Mr. Bentley (lower half), Miss Smit (right half), Lady Bailey, Mrs. Smit (left half), Mr. Smit, the High Commissioner for the Union of South Africa (upper quarter), Air Vice-Marshal Sir Sefton Brancker, Mr. Mayer, and lastly Mr. Saywell of the "Johannesburg Star."

A SPORTING PROPOSITION.

On Aug. 16 an interesting little ceremony took place at Stag Lane Aerodrome, when the Honourable Lady Bailey christened the D.H. Moth on which Lieut. R. R. Bentley of the South African Air Force intends to fly to Cape Town.

Among those present were Mr. J. S. Smit (High Commissioner for the Union of South Africa), Mrs. Smit, their two daughters and Mr. J. S. Smit, jun., Sir Sefton Brancker, Lady Carbery, Mr. Mayer, Mr. N. K. Kerney, the London editor and other officials of the *Johannesburg Star,* which newspaper is backing the enterprise.

Lady Bailey with characteristic thoroughness broke a bottle of South African wine on the boss of the air-screw, at the same time naming the machine *Dorys* and wishing it the best of luck. She afterwards accepted a bouquet from the pilot.

Mr. Bentley has been in this country for about three weeks watching the progress of his machine. He intends to follow the route by way of Italy, Malta, and Northern Africa to Cairo, and thence onwards he will touch the same points as Sir Alan Cobham did on his return flight in a D.H.50.

Petrol and oil supplies are at present being laid down by the Shell-Mex and Castrol firms, and immediately he hears that stocks are available at all points he proposes to set off.

ADVICE ON RADIO.

In these days when practically every aeroplane outside the light class has to be fitted with wireless, there is need for quite a good deal of practical and theoretical knowledge of radio work in arranging and fitting the apparatus in machines. This is specially so where new types are concerned. And if the problems were to be tackled in the mock-up of the new machine instead of waiting until the machine was finished, quite a great deal of time and trouble might be saved. At the same time there is not enough of such work going to justify any firm in maintaining a tame wireless specialist.

Consequently a good many aircraft constructors may be glad to know of a well-known wireless aircraft engineer. He has the backing of soundly-established wireless manufacturers who specialise in aircraft work, and he offers to act as a radio consulting engineer.

The engineer in question has intimate knowledge of the development of Civil aircraft and is prepared to place his advice and assistance at the disposal of any aircraft constructor on very reasonable terms. Besides advising on the fitting of existing radio apparatus, he is prepared to design and construct special wireless and electrical apparatus for the needs of any particular aircraft.

Any constructor or designer who would like to get in touch with him is invited to write to A.B., c/o The Aeroplane, 175, Piccadilly, W.1.

A BRITISH EFFORT.

During the week Aug. 14-20 there has been held at Zurich an International Aviation Meeting. Although it has not been possible to obtain up to the present an account of the whole meeting, which it is stated attracted a gathering of one thousand aircraft, it is satisfactory to be able to record that the one British entry, an Avro Avian, piloted by Mrs. Elliot-Lynn, put up a very creditable showing in the International Competition for Light Aeroplanes.

The Avro-Alpha-Avian was entered but unfortunately it could not be present. In its place a standard Avian with the Cirrus engine, owned by Mrs. Eliott-Lynn, was flown out for demonstration purposes, and the Contest Committee kindly permitted it to compete in place of the original entry.

For this competition there were four entries, the Avian, a Caudron with a 40 h.p. Salmson engine, and two Klemm-Daimler monoplanes with 20 h.p. Mercedes engines.

The Avian, flown by Mrs. Eliott-Lynn, won every event with the exception of the landing competition and the consumption test, which latter, owing to the large size of the Cirrus engine compared with the others in the competition, forced it down to third place. The following is a table of performances of the various entries.

Points were awarded for construction, workmanship, accessibility, visibility, facilities for repairs, comfort, luggage accommodation, price, landing and taking off, etc. The total divided by 80 and added to 1 represents "C" in the accompanying table.

The final formula was $(P \times Y) \div E$ where P = useful weight carried, V = speed over the course, and E = weight of petrol used.

Mrs. Eliott-Lynn was awarded the Basle Cup for the greatest speed between St. Gall and Basle. As the only owner pilot, competing on the only British machine, she deserves full credit for putting up such a good performance, and for making such a sporting effort to uphold the prestige of British Aviation on the Continent, when all our wealthy manufacturers neglected their opportunities.

The Avian was tended by Mr. Gerald Boyes of Speed-Hire Services, Ltd., and Mr. Parsons, the resident engineer of Imperial Airways at Zurich, who, Mrs. Lynn says, worked like niggers on the machine and contributed largely to its performances.

Machine.	Pilot.	Engine.	Time for landing dismantling, housing, re-erecting and starting.	Place	Take-off.	Place	Landing.	Place	Time over Speed Course 356 kms. (Zurich—St. Gall—Basel—Thun—Zurich).	Place	Consumption	Place	"C"	PV / E	Total Marks.	Placing.
Caudron ...	Finat	Salmson 40 h.p.	25 mins.	4th	149 m.	4th	51 m.	2nd	3 hrs. 36.59 mins.	2nd	29.815 litres	2nd	1.695	750	1270	1
Klemm-Daimler	Lusser	Mercedes 20 h.p.	12 mins. 50 secs.	2nd	86 m.	2nd	49 m.	1st	5 hrs. 45.27 mins.	3rd	24.93 litres	1st	1.818	479	900	2
Klemm-Daimler	Zurich Club Member	Forced	landing on speed	course.		—	—	—	—	—	—	—	—	—	—	—
Avro-Avian	Lynn	Cirrus II 75 h.p.	5 mins. 20 secs.	1st	71 m.	1st	60 m.	3rd	2 hrs. 52.35 mins.	1st	49.13 litres	3rd	1.924	835	835	3

COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 31; Tuesday, 29; Wednesday, 28; Thursday, 26; Friday, 33; Saturday, 24; Sunday, 12.

IMPERIAL AIRWAYS LTD.:
London—Paris—Zurich: London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin: Machines 89, passengers 664, freight 23 tons.

AIR UNION:
Paris—London: Machines 45, passengers 217, freight 12½ tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 27, passengers 201, freight 3½ tons.

SABENA:
Brussels—London: Machines 12, passengers 78.

DEUTSCHE LUFTHANSA AG.:
Berlin—London: Machines 14, passengers 71.

PRIVATE:
Machines 1, passengers 0.

Total number of trips by British machines, 90, carrying 664 passengers. Foreign Machines, 98, carrying 567 passengers.

COMPARITIVE FIGURES.

Week ending Aug. 20:
Machines, 188; Passengers, 1,231; Crews, 376; Total personnel, 1,607.
Corresponding week, 1926:
Machines, 186; Passengers, 1,272; Crews, 226; Total personnel, 1,498.
Corresponding week 1925:
Machines, 196; Passengers, 1,125; Crews, 281; Total personnel, 1,406.
Corresponding week, 1024:
Machines, 176; Passengers, 904; Crews, 223; Total personnel, 1,127.
Corresponding week, 1923:
Machines, 144; Passengers, 724; Crews 231; Total personnel, 955.
Corresponding week, 1922:
Machines, 176; Passengers, 642; crews, 303; Total personnel, 945.
Corresponding week, 1921:
Machines, 114; Passengers, 437; crews, 140; Total personal, 577.
Corresponding week, 1920:
Machines, 123; Passengers, 262; Crews, 154; Total personnel, 416.

Croydon Notes.

During the past two months of singularly unpleasant weather the Continetal air services have been maintained with remarkably good regularity. There is no doubt whatever that this is due in large measure to the improved reliability of modern engines, and,, particularly in the case of Imperial Airways, to the use of multiple-engined machines.

It seems reasonable to deduce from the results of this Summer's operations that services during next Winter will suffer far less interruption on account of weather conditions than they have done in the past, but undue optimism in this respect will inevitably be disappointed.

Filthy as the weather has been recently it has consisted mainly of violent disturbances more or less local in extent, and between individual rainstorms and patches of low clouds there have been intervals of good visibility. And generally the terminal aerodromes have been clear of ground-fog except occasionally in the early morning.

The real Winter problem of navigating between terminal aerodromes with uniform lack of visibility over the whole route has not been solved by the experience of this Summer, but one new difficulty, which may prove very serious, has been revealed by this season's flying.

This difficulty is that some at least of the new multi-engined machines require too much physical effort to control them under really bad conditions. The trouble apparently is due to the large size and inertia of the control surfaces on these machines which makes it impossible to move them quickly anyhow, and makes it impossible for the pilot to stop them moving if they are set in motion by external air forces.

In the ordinary way this particular defect is of no great importance. With plenty of air-room the machine may safely be allowed to wallow at its own free will. But if a pilot is groping his way through low clouds or blinding rain a few feet above tree-tops, he cannot safely allow the machine this freedom. In the case of some large machines of British origin the pilot under such conditions simply cannot hold his controls—let alone move them rapidly in the required way.

It may be said that the pilot of a modern multiple-engined machine ought never to have to grope his way through fog a few feet above the earth. He should fly high and rely upon wireless to lead him to his destination.

Wireless communication has been of great value during the present spell of bad weather, but unfortunately wireless sets on aircraft are by no means 100 per cent. reliable. Groping for the way near the ground is still necessary in bad weather simply because no pilot dare risk a failure of his wireless, which would leave him completely in the dark as to his position.

The worst defects of the existing wireless installations for aircraft are two in number. One is that it is impossible to test them for satisfactory operation until the machine is in the air. All the electrical circuits may be tested on the ground, found to be—apparently—in perfect order, yet in the air the set may fail to receive or to transmit.

The second is that the present sets can only be used with a long trailing aerial. This defect largely contributes to the first. You cannot let out the aerial on the ground, and without the aerial you cannot check the tuning of the set. When the machine gets into the air the set may be functioning perfectly, but on a wave length so far removed from that of the ground stations that they can neither receive from nor transmit to you.

Apart from this the trailing aerial has one fatal defect. Directional wireless can and often does bring a pilot safely to within a mile or so of his landing ground. But if the ground is obscured by fog or low cloud the pilot has finally to come down and grope for it. And it is just in this final stage, when speech with the aerodrome would be most valuable to him that the pilot has to wind in his aerial or else risk having it torn away by fouling a tree-top or the like.

It is possible to equip an aeroplane with aerials fixed to the wing and body structure. Aerials of this type are in regular use on R.A.F. aircraft, and it seems surprising that they are not used on commercial machines. The trouble is that such fixed aerials, though perfectly satisfactory when used on short wave-lengths, are far from efficient for long wave working.

An International Convention, in its wisdom, has ordained a standard wave length for commercial aircraft. An air line which decided to fit its machines with fixed aerials to-day would have to provide its own ground sending and receiving stations—or else suffer such a reduction in the working range of the wireless sets that they would only be useful at very short range.

Experiments with fixed aerials are in progress, and there are hopes that the difficulties connected with their use may in some measure be overcome.

But until these and certain other difficulties with wireless are completely overcome, and some satisfactory and really reliable method of landing in fog is provided at all aerodromes the reliability of Winter flying in this climate will not greatly increase.

These considerations of the difficulties still to be overcome in connection with winter flying might easily be combined with almost equally unpleasing reflection on the stagnant nature of Summer air traffic were one really pessimistically inclined.

During the five weeks ending on July 31 this year there were 864 trips from and to Croydon, and a total of 5,975



THE FOKKER F.VIII (two Gnome-Rhône Jupiters), which has been in use on the K.L.M. line for some months.

passengers arrived and departed from that place. For the corresponding five weeks of 1926 the figures are 852 trips and 5,826 passengers, an increase this year of 12 trips and 139 passengers.

The traffic carried by Luft-Hansa between Croydon and Germany has increased certainly by as much as the whole difference shown in these figures. K. L. M. traffic has also increased quite notably, and so one believes has that of Sabena. The conclusion seems irresistible that the traffic carried by the remaining lines has actually decreased, for this particular period, from that of last year. The bulk of the remaining traffic is that carried between London and Paris, and that traffic is mostly carried by Imperial Airways Ltd.

The London-Paris route may be an excellent one from the advertising point of view. That certainly seems to be the opinion of a considerable number of those who travel by it. But the facts do seem to confirm an opinion which has frequently been expressed in this paper that, with aircraft as they are to-day, it is about the last route in Europe with real commercial possibilities.

As one step on the way to the Mediterranean for the South and East, London-Paris may be very well. At present Imperial Airways' extended service to Basle is one step in the right direction, but only one step. And international jealousies do not encourage hopes of any early extensions in the required direction. But if British enterprise in air transport is going to stick at running from London to Paris until London to Paris alone pays its own way, it is going to stick for a long time.—W.H.S.

THE K.L.M. ACCIDENT.

The K.L.M. Fokker F VIII, H-NADU, which left Croydon at 08.00 hours on Monday, Aug. 22, for Rotterdam, crashed within a mile or two of Sevenoaks about 20 minutes later as the result of a very remarkable accident. Jacobus Brunklaus of Dordrecht, Holland, the mechanic, was killed, and the pilot, Mr. Van Dyk, and eight of the nine passengers on board were bruised or cut.

According to the evidence given by Mr. Van Dyk at the inquest on his mechanic, the tail-fin and part of the rudder of the machine carried away in the air when the machine was at a height of about 1,000ft. The pilot then found that the machine was entirely out of control directionally, and apparently it was only with considerable difficulty that he was able to restrain it from diving. He was, however, able to hold its nose up and to keep its air speed down to a reasonably low figure, in the course of a spiral descent.

The machine hit one of a pair of large trees with its right wing, which was sheared completely off, and fell with the left wing against the second tree and the fuselage on the ground between the trees. The right side of the fuselage was wrecked, and the mechanic—who was seated on that side—was crushed to death.

The pilot and passengers were thrown violently forward, but all escaped with relatively slight injuries, and were able to return to London by car almost immediately.

It is idle to speculate as to the reason for the original failure of the fin and rudder which caused this accident. It is undoubtedly a failure of a kind which ought not to occur, but it may have been caused by any one of a large number of circumstances. One may safely trust the Inspector of Accidents, the K.L.M., and the Fokker firm to investigate thoroughly the causes of the breakage, and the makers will certainly take precautions against any recurrence of such an incident.

The machine, which is the new twin-engined Fokker (two Jupiter engines), has been in service for about three months, and had, until Monday, proved itself to be an exceedingly satisfactory and comfortable machine.

Everyone will extend their sympathy to the friends and relatives of Mr. Brunklaus, and to the K.L.M., who have suffered the loss of a valued servant.

It is singularly unfortunate that the very uniform and reliable service of this firm should suffer so serious a mishap, but it must not be forgotten that very much more serious consequences might well have been expected under the particular conditions. It speaks very highly indeed for the skill of Mr. Van Dyk, and the general sturdiness of Fokker fuselages, that all the passengers escaped serious injury, and the whole affair should rather increase one's confidence in the reliability of the K.L.M. personnel and fleet than the reverse.

LONG DISTANCE OIL CONSUMPTION.

Some astonishment and a good deal of doubt has been expressed in various quarters concerning the alleged oil consumption of the Wright Whirlwind engine used by Lindbergh on his flight from New York to Paris. From measurements made on arrival in Paris it appeared that the total oil consumption had been about 4½ U.S. gallons—or about 3¾ Imperial gallons, which is little more than one Imperial pint per hour.

The following statement quoted from a letter recently received by THE AEROPLANE from Mr. Chas. L. Lawrance, President of the Wright Aeronautical Corporation, should therefore be of general interest :—

With regard to the oil consumption of Lindbergh's engine, I can give you the following :—

We know on his arrival from San Diego he had used only 3½ gallons, and our people had an opportunity actually to measure this oil consumption. The figures with regard to the flight from New York to Paris are more doubtful, as we have no accurate way of checking the amount of oil used, but 4½ gallons seems perfectly reasonable to us.

The Whirlwind has a very low consumption and it is an everyday occurrence to have oil consumption figures corresponding to Lindbergh's. For instance in Chamberlin's duration flight of 51 hours 11 mins., the oil used was 4.93 gallons.

Our guaranteed oil consumption is not over .025 lbs. per h.p. hour. Using this maximum Lindbergh would have used 10.8 gallons, but taking the average of the first seventeen J5C engines the oil consumption was .017 lbs. per h.p. hour—which for Lindberg's flight would have given 5⅜ gallons.

As his piston rings were perhaps more carefully fitted than the average it is obvious that 4½ gallons per hour is a perfectly reasonable figure.

On a fifty-hour test of engine 6914 the first five hours were run at the oil consumption of .0053 lbs. per h.p. hour. This was considered too low, and the oil consumption was raised to .013 lbs. per h.p. hour before continuing the test.

The Varney Air Mail Service, flying between Salt Lake City and Pasco, Washington, covered a total distance of 320,000 miles employing seven J.4B Whirlwind engines, and used .52 quarts of oil per hour for the entire distance—not including oil changes. This consumption in Lindbergh's flight would have been the equivalent of 4.36 gallons.

You will thus appreciate that there is no question in our minds about believing the figures with regard to the flight across the Atlantic.

In closing, let me remind you that it takes six U.S. gallons to make five Imperial gallons.

Thus, those who doubted the possibility of Lindbergh's 4½ gallons for the New York—Paris trip have now to readjust their ideas to believe in the job being done on 3¾ gallons. British engine designers will do well to study these figures, for there is no possible doubt about the accuracy of Mr. Lawrance's statement. Also, it is well to remember that all these flights have been done on straight mineral oil and on straight petrol, without benzol.

If we are to do business in air transport machines with Canada and the other British Dominions we must meet American competition on even terms. If there is no British air-cooled engine in the Whirlwind class, for power, reliability, and consumption combined, we shall have to use Whirlwinds, and get airworthiness certificates for them over here before fitting them to the machines.

A PATENT PARTNERSHIP.

The partnership is announced of Mr. Arthur Hugh Stanley, Chartered Patent Agent, late sole partner in the firm of Stanley, Popplewell & Co., Chartered Patent Agent, late sole partner in the firm of Stanley, Popplewell & Co., Chartered Patent Agents and Consulting Engineers, of Jessel Chambers, 88-90, Chancery Lane, London, W.C.2, and Mr. E. Lloyd Francis, A.M.I.Mech.E., Registered Patent Agent. The newly constituted firm will practise at the above address under the style of Stanley, Popplewell & Francis.

AN ENGINE EXPERIENCE.

One of the engineering staff who has had the handling of the engines on the Middle East section of our Imperial air-way has written the Bristol Company saying :—

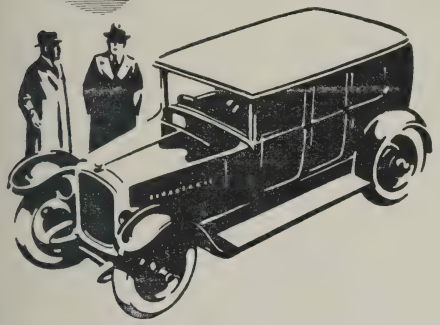
The first of the Jupiter-engined Hercules machines, which did the trip to India when Sir Samuel Hoare was a passenger, has completed 200 hours' flying without the slightest trouble of any kind. The starboard engine was then taken out and examined and was found to be in absolutely perfect condition, so that the remaining two engines are continuing in the machine for a further period.

There has been no engine trouble of any kind whatever in any of the Hercules machines, which are running at 100 per cent. efficiency. This is the more notable when it is considered that the temperature at Basra in 'Iraq is as high as 127° in the shade.

This information will be very interesting, more especially

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to those who have had experience of the anxieties of the maintenance and running of water-cooled engines under conditions of extreme heat.

E. AND O. E.

Owing no doubt to errors of transcription or transmission or omission or something of that sort, certain mistakes occurred in a recent advertisement of A.D.C. Aircraft Ltd. and that excellent firm desires to express, through THE AEROPLANE, its regret to anybody who may have been misled. One knows very well that the last thing A.D.C. Aircraft Ltd. ever wants to do is to steal anybody else's thunder, or to mislead anybody in any way.

The Grosvenor Challenge Cup was in fact won with a Cirrus engine, but it is ascribed to an Avian, whereas it should have been a Moth. Second place in the S.B.A.C. Challenge Cup was claimed for a Cirrus Moth, which was in fact the first machine past the post. But unfortunately the pilot was disqualified and the place was actually won by the Cherub-engined C.L.A.4. Third place in the race for the Pelham Stakes was claimed for a Cirrus Moth whereas this place was in fact taken by an S.E.5a, Viper engine, which, although it was presumably bought from A.D.C. Aircraft Ltd., it was not manufactured by that firm.

As a matter of fact the Cirrus engine has scored so heavily at all the flying meetings this year that the owners can well spare a few places to other engines.

RECEIVERSHIP (RELEASE).

CENTRAL JOINERY COMPANY LTD. (formerly Central Aircraft Company Ltd).—S. E. Smith, O.B.E., of 4, Broad Street Place, E.C.2, ceased to act as Receiver or Manager on behalf of prior lien debenture holders on April 27, 1927. (Notice filed Aug. 10.)

PERSONAL NOTICES.

DEATH.

ANNESLEY.—On Aug. 16, at Ottawa, Canada, after a few days' illness, Flt. Lt. William Robert Bathurst Annesley, R.A.F., only son of the late Maj. W. R. N. Annesley, Royal West Kent. Regt. and Mrs. Annesley, Greyfriars Garden, St. Andrews, Fife.

Flt. Lt. Annesley joined the R.E. (T.F.) in September, 1914, and was seconded to the R.F.C. in October, 1915. He held the acting rank of Captain, R.A.F., in October, 1918, after service in the Dardanelles and Italy.

In July, 1921, he rejoined the R.A.F. with a short service commission and was posted to No. 31 Squadron, India. From there he went to the Aircraft Depot, Karachi, in October, 1923, and returned to the Home establishment in January, 1925. He was promoted Flt. Lt. in January, 1925, and appointed to a permanent commission in August, 1925.

In May, 1925, he was posted to the School of Technical Training, Halton, for engineering duties. Last January he was posted to the R.A.F. Base, Leuchars, for a few weeks, and in February he was attached to the Royal Canadian Air Force.

Flt. Lt. Annesley was a B.Sc. and a qualified Engineering Officer.

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MARRIAGE.

MACKENZIE-RICHARDS—COBBOLD.—On Aug. 17, at Aldeburgh, Campbell Mackenzie-Richards, Flg. Off, R.A.F., to Mirabel, daughter of Lt.-Col. Ernest C. Cobbold and Mrs. Cobbold, of West Hill, Aldeburgh, Suffolk.

FORTHCOMING MARRIAGES.

RAGG—MOIR.—The engagement is announced of Flt. Lt. R. L. Raff, R.A.F., son of the late R. S. Ragg, B.A., of Reigate, and Mrs. Ragg, of Swanage, and Margaret, only daughter of the late G. W. Moir and Mrs. Moir, of 119, Cromwell Road, S.W.7.

SANDERS—OLIVIER.—The engagement is announced of Flt. Lt. Arthur Penrose Martyn Sanders, R.A.F., only son of the Rev. and Mrs. H. Martyn Sanders, of the Vicarage, East Twickenham, and Edith Mary Olivier, elder daughter of Mr. and Mrs. Herbert A. Olivier, of 7, Airlie Gardens, W.8.

BIRTHS.

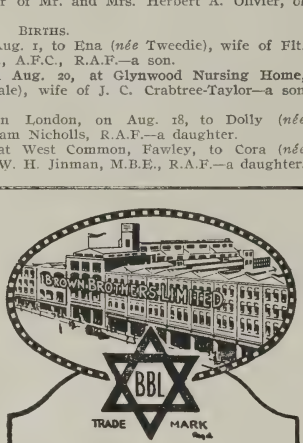
AITKEN.—At Malta, on Aug. 1, to Ena (*née* Tweedie), wife of Flt. Lt. R. Stanley Aitken, M.C., A.F.C., R.A.F.—a son.

CRABTREE-TAYLOR.—On Aug. 20, at Glynwood Nursing Home, Harrow, to Grace (*née* Weale), wife of J. C. Crabtree-Taylor—a son (Barry).

GRAHAM NICHOLLS.—In London, on Aug. 18, to Dolly (*née* Fairholm), wife of W. Graham Nicholls, R.A.F.—a daughter.

JINMAN.—On Aug. 16, at West Common, Fawley, to Cora (*née* Oden), the wife of Flg. Off. W. H. Jinman, M.B.E., R.A.F.—a daughter.

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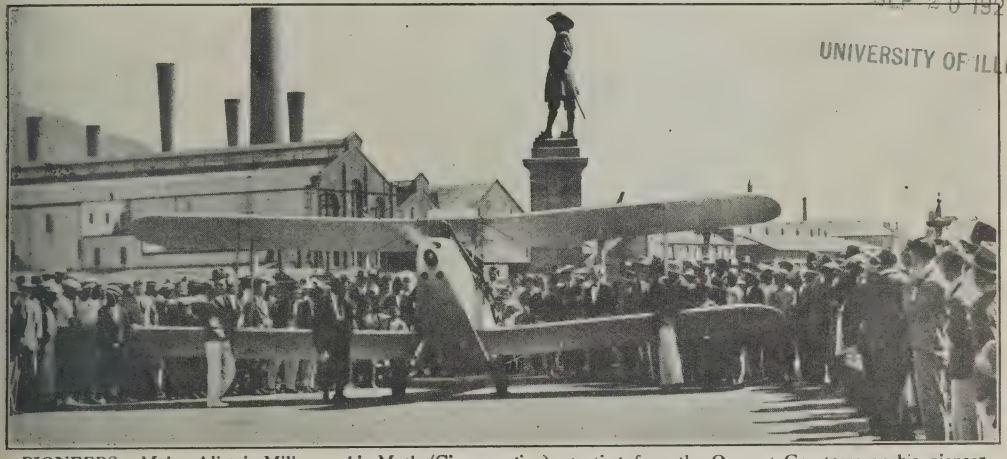
INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. C. Grey

Vol. XXXIII. No. 9. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

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"IF I HAD NOT LIFTED UP THE STONE, YOU HAD NOT FOUND THE JEWEL."
(Hebrew Proverb.)



PIONEERS.—Major Alistair Miller on his Moth (Cirrus engine), starting from the Quay at Capetown on his pioneer light aeroplane tour of the Union of South Africa—a tour which disclosed new possibilities for flying in South Africa. Behind him is the statue of Van Riebeek, the Hollander who first landed and settled in South Africa.

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AUG. 31, 1927.

THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 9.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s.
Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8$.
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"WACHT-AM-BEETJE."

[To those who have met it the "Wait-a-Bit" thorn remains an unforgettable memory. To many it typifies South Africa. How it does so, let Mr. De Holden-Stone's verses explain.]

Tree of the tremulous tender leaf
And the stabbing hate of the leopard's tooth,
What is your pitiless grudge or grief
Knowing not rest nor ruth?

Taking the flesh with the stricken hide
Swerving our sweated paths astray;
Well if you arbour not death beside,
Coiled on your branches grey.

The Lord, in His Eden-gift of trees
(To a man and a maid in His garden-ways)
Called on His listening winds that these
Might ever chant his praise.

Were this for timber, or that for shade,
Or the gladsome fruit of His ordered use;
But you? In the wisdom of all things made
What is your least excuse?

O wanderer-lover from all wide earth,
Know, in my fortress of flint and thorn
I guard a maid, since the ages' birth,
Fairest ever was born!

Hers is a wooing that none may speed
Nay: for her kisses are thirst and flame!
So, save you be knit of an iron breed,
Back, by the way you came!

My Africa is not light-of-love
No easy meed of a moonlight quest;
No wooer, but fisted lord must prove
He that shall win her breast.

Yet laugh: with a lash for her lawless moods,
And a faith enforced for her loveless vows;
She shall yield housel, gold and goods;
She shall be spoil and spouse.

Sons, and their sons of your race renewed,
She shall breed you, strong as your heart's desire;
And daughters, fair as her maidenhood;
Snow upon hidden fire.

The legion wings of her sovran peace
Over her velvet veld shall fly;
And the shuttles swift of her hands' increase,
Her landlong highways ply.

In her day it shall seem that no sorrow is,
And her garment of stars shall enfold by night,
With the peace in her spaces pent; and this
Deeper than all delight.

Yet ever my rending touch shall tell
—In the halted way that my leave awaits—
I am her strong heart's sentinel;
Guardian at her gates.

Lo! For the price of your wanderings:
The goal! And the soul of you diced to live.
Ja! wacht-am-beetje-noch! . . . . all these things,
Win them; and she shall give.

GEOFFREY DE HOLDEN-STONE.

ON FLYING IN BRITISH AFRICA.

Each of the component parts of the British Empire has its peculiarities,—which is natural, considering that birds of a feather flock together, and that certain climates and conditions appeal to certain temperaments or certain physical characteristics, and that to a limited extent climate and conditions affect the psychology and physiology of the individual. Certain climates and conditions of life kill off or drive home people of certain types, and the result is that the survivors tend towards a few types, of which one or two predominate to such an extent as to give the impression that a special type peculiar to that country has been evolved.

These personal and climatic and topographical peculiarities naturally affect the way in which each of the British Dominions overseas handles Aviation. To each Dominion in varying degrees Aviation is important as a method of transport. But the way in which flying is developed depends on the characteristics of the country and the psychology of the inhabitants.

For example, for some curious reason Canada has done an immense amount of air survey work and quite a considerable amount of irregular air transport. And yet there are no air lines at all in Canada although the Canadian railways run so slowly that there is a very obvious need for air lines—quite as much so as in the United States in proportion to the population.

Australia, on the other hand, has an air line system which in length and amount of traffic is out of all proportion to the population of the country which is served by those air lines, and the Australian air lines are run with astonishing efficiency. Yet there is practically no air survey work in Australia and very little use is made of aircraft except on those established air lines—at any rate till the various flying clubs were started recently.

Of British Africa it may be said, as of poor Poppa in the song, that "He's got nothin' at all," though one excepts the small hardworking, enthusiastic and disgracefully badly equipped South African Air Force, which does not in fact enter into this argument, seeing that at the moment we are discussing Civil Aviation. The history of the South African Air Force shall have an article all to itself.

SOUTH AFRICAN AVIATION.

At various times attempts have been made to develop aviation in South Africa, for naturally, as South Africa has had a native-born Nordic population for so many years, there was flying there long before there was any in the other British African states.

Actually the first flier in South Africa was John Weston, of Brandfort, in the Orange Free State, a loyal Free Stater though of English descent, who fought against us as a Feld-Kornet in the Army of the Orange Free State during the Boer War. He remained free till after the Peace of Vereeniging and then came to Europe. He learned to fly in France, after being a Lieut.-Colonel in the Russian Army during the Russo-Japanese War, and was the first British aviator to hold the three Aero Club Certificates,—as a balloonist, an airship pilot, and an aeroplane pilot.

Later he served under General Botha as a Captain in the South African Flying Corps, in the rebellion of the old Boers in 1914-15, and in German South-West Africa. Afterwards he became an R.N.V.R. officer attached to the R.N.A.S. Then he became a full-fledged Flight Lieutenant, R.N.A.S., and the last time one saw him he was a *Capitaine de Frégate* in the Greek Navy, as a member of the British Naval Mission to Greece. Not a bad record for a Pacifist who has a conscientious objection to War,—and does his best to stop it.

Thereafter, quite in the early days, to wit in 1911, Mr. Compton Paterson and Mr. Guy Livingston, later to become a Brigadier-General R.F.C., took a couple of machines to South Africa and taught certain officers of the Union Army to fly. Mr. Compton Paterson has disappeared from aviation. General Livingston is the representative of Vickers Ltd. in South America And the third member of that expedition, one Driver, was seen lately in South Africa by an old flying friend, apparently having had bad luck in life.

Several of these first pilots among South African officers did splendid work during the War 1914-18. Some served in

France, one commanded the R.F.C. in the final stages of the War in German East Africa, and one flew after 1918 in the War against the Bolsheviks in North Russia.

But nothing was actually done in the way of Civil Aviation in South Africa before the War, with the exception of a few tentative flights, as for example from Bloemfontein to Kimberley or something of that sort.

During the War 1914-18 South Africa produced quite a large number of very fine pilots. Many of them were men of Dutch descent whose fathers had fought against us in the Boer War. And of the others some few were British born but the majority were from Cape Colony and Natal.

One of the very best, Major Miller, who is now the chief apostle of Civil Aviation in South Africa, was in fact the first white child to be born in Swaziland.

The South African Leaders.

The present chief of the South African Air Force, Lt.-Col. Sir Pierre Van Ryneveld, K.B.E., D.S.O., M.C., whose Christian name was originally Helperus, and who is known to his intimates in this country as "Jock" for some obscure reason, is obviously a descendant of the old Dutch settlers, and no officer in the Royal Flying Corps had a finer War record than his.

To him and his compatriot, Sq. Ldr. Sir Quentin Brand, K.B.E., D.S.O., M.C., D.F.C., also of good South African Dutch descent, if names count for anything, belong very fittingly the high distinction of being the first men to journey from England to South Africa by air. Like the first trans-Atlantic fliers and the first England—Australia fliers they used a Vickers Vimy with Rolls-Royce engines for the job.

Their journey in 1920 was one of the most strenuous of all the great flights which have linked up the British Dominions by air. Nothing was known of flying conditions in Central Africa, and they met with unforeseeable trouble in getting off with a heavily loaded machine in tropical air at the high levels to which the land rises in Central Africa,—for in those days we had no high-compression engines for such work. And when they finally crashed at Bulawayo the wonder was that they had got so far.

Their indomitable determination was shown by their finishing the flight on one of the old D.H.9s presented by the Imperial Government to the Union of South Africa immediately after the War.

South African Qualities.

All those who knew the South Africans during the War agree about their high value as fighting men. The born South African, whether of British or Dutch descent, has certain qualities which are peculiarly his own. The slow-speaking soft South African voice is quite distinctive among all the peoples of the British Empire. This probably is a habit inherited from the Dutch, who are themselves a notably soft-speaking people. The contrast between the soft voice and the athletic physique of the average South African has a certain charm.

The South African, whether of Dutch or English descent, is apt to think slowly, as well as to speak softly. And that may account for the fact that so far aviation has made comparatively little progress in South Africa.

The motto of South Africa might very well be, "*Ons moet en plan maak,*"—for the phrase is more used than any other in South Africa, except perhaps "*Wacht en beetje.*" Literally it means "we must make a plan." It may mean laying a solid foundation of staff work before undertaking anything new. And it may mean conspiring over some scheme to defeat some political or commercial enemy. In which latter case there arises from it that "slimness" for which a certain type of Dutchman (and Englishman) is notorious.

Either way, making schemes and waiting a bit are apt to delay operations at the start. But they may make for a more lasting success at the finish, always provided that somebody with a quicker wit does not step in and defeat the plan while it is still being made.

On the whole that outlook has operated for the good of South Africa. Of all the British Dominions South Africa is least given to sudden booms and disastrous slumps.

The result of this constitutional caution has been that in spite of the good work which has already been done by South African aviators before and since the War we are only now seeing the beginnings of real flying in South Africa.

South African Efforts.

Apart from the gallant flight of Van Ryneveld and Brand there have been several stout efforts to start flying in South Africa. A South African company was founded by the Handley Page Company and one of their war-time twin-engined machines of the O/400 type was sent out with the idea of making flights between Cape Town, Johannesburg and Pretoria to impress on the South African people the value of air transport.

Unfortunately owing to defective adjustment of a compass the machine lost its way on its first flight in the direction of Pretoria, came down on a bad piece of ground and was crashed. And that was practically the end of that attempt.

Two or three Avros were sent to Cape Town and were used for joy-riding. One of these crashed and killed its pilot and passenger, and that practically finished joy-riding as a commercial undertaking.

The brothers Frank and Shirley Solomon, who owned a motor business at Muizenberg, acquired a couple of D.H.6s and for several years managed to keep them going. But one imagines that they did so chiefly out of the profits of their motor business.

One very interesting piece of work of theirs was to fly one of their machines out to sea on a whale-spotting expedition in co-operation with a whaling vessel. It was a very plucky effort and though it did not achieve success it indicated one way in which aeroplanes could fittingly be useful in South Africa.

One remembers also that a pilot of an Avro accompanied by Mr. J. G. W. Gordon of *The Johannesburg Star*, made a very good flight from Johannesburg to Durban, demonstrating that with even a comparatively slow machine the mail service could be made much faster.

Unfortunately nothing came of any of these efforts. Either these pioneers did not make their plans and carry them through with sufficient thoroughness, or else, as seems even more likely, they were simply too soon. South Africa's other classic phrase, "*Wacht am Beetje,*" was against them. They should have waited a bit before trying to impose this new means of locomotion on South Africa.



A MOTH FOR SOUTH AFRICA.—Lieut. R. R. Bentley, South African Air Force, in the Moth (Cirrus II) which he is about to fly to Johannesburg.

Recent Developments.

More recently attempts have been made to develop Civil Aviation on a more wholesale scale. By way of convincing South Africa of the usefulness of air transport a Flight of the South African Air Force tried in 1925 to run an air mail service between Cape Town and Durban, calling at intermediate ports by the way. Unfortunately the service was not a success, partly because the inhabitants of the various towns along the route did not bother about sending their letters by air mail, and partly because the service was made difficult by coastal fogs.

One is unable to say whether these fogs were exceptional or whether they are the habit along that coast. People who have been born and bred in South Africa can be found to give evidence either way,—as experts generally can be found in any branch of science. At any rate the fogs were quite bad enough to prevent the service from running with the regularity necessary in handling of mails. Also the service got little support from the business men of Cape Town and Durban,—which, as they are mostly English, was only to be expected.

The probability is that actually this trial service was not run long enough either to test thoroughly the weather conditions of the route or to discover the best way of getting round or through the fogs. People with some considerable experience of South Africa hold that this was in any case a bad route to choose, because the intermediate mail communication is not big enough to justify it. They are rather of the opinion that what is actually wanted are mail services from Cape Town to Johannesburg via Pretoria and from Durban to Johannesburg via Ladysmith.

A Political Wangle.

Still more recently there has been a proposition put up by the Junkers Company to develop air mail services anywhere in the Union of South Africa that may seem advisable. One scheme, for example, is to run a line from Johannesburg, as the centre of the Goldfields, right across the Kalahari Desert to Walfish Bay.

The idea is that outward and homeward-bound steamers shall call at Walfish Bay and that anything from or to Johannesburg which is suitable for air transport should be transhipped there. From Walfish Bay to Johannesburg is only about a day's flying and consequently such goods would be saved the long railway haul between Cape Town and Johannesburg and the considerably longer steamer voyage between Cape Town and Walfish Bay. Somewhere about three days could certainly be saved in this way.

One is not sufficiently well up in South African politics to know precisely what is behind this Junkers deal. But one does know that there has been a good deal of scandalous talk about it.

Civil Flying in South Africa comes under the Minister of Railways. And, at the time of writing, the Minister of Railways is, one is told, a Dutch South-African who has not shown any public or private enthusiasm for England or the English. He has in fact been described to one as being definitely anti-British. The inference therefore is that he would be likely to favour contracts with the Junkers Company as against contracts with a British firm.

Others of his political opponents say that he is definitely opposed to air transport of any kind. They say that his sympathies are entirely with the railways, and that, because of having seen little outside South Africa, he is just cute enough to realise that if once aviation gets going in South Africa it will seriously affect the takings of his railways. But apparently he is not sufficiently intelligent to see that an improved postal and passenger service would mean such an increase in general trade as to develop much greater freight traffic.

Air Force Problems.

The situation is further complicated by the fact that certain people concerned with the South African Air Force are believed to be hostile to the development of civil air transport. Obviously there is little for the South African Air Force to do, and unless it does something there must necessarily be difficulty in getting enough money for new equipment and adequate upkeep.

There is therefore a strong opinion in some quarters that the South African Air Force itself would like to take on a good deal of civil work in order to justify its existence, very much on the lines on which the Royal Canadian Air Force has taken on forest patrol, fishery guard, air survey work and more recently the running of a trial air line.

Personally one regards this as quite a reasonable attitude, for, after all, every man is out for himself, and if a small Air Force could be developed into a kind of aerial Civil Service to run mails and do surveys and so forth, there would necessarily be more opportunities for the people in it. Therefore it is quite possible that some of the people in that South African Air Force have been saying "*Ons moet en plan maak*" in those directions.

Still, one cannot help thinking that if the South African Government could be induced to find the money for decent new equipment, there is plenty of legitimate Service work of a purely military nature for the South African Air Force to do, and that civil flying might be left to civilian enterprise. Already members of that Force have acquitted themselves well, with the most lamentably obsolete equipment, against certain black tribes, Bondelzwartz one thinks, and it did particularly well in helping to crush the Bolshevik rising in the Johannesburg mining area in 1921 when one of its officers was shot down and killed by Communists.

The South African Air Force has not so far done anything in the way of coast patrol work, and no step has yet been made in the direction of developing coast defence work. And there is every probability that, when the great war in the Pacific comes, South Africa will have to defend her coasts against Japanese raiders by sea.

Even though the air patrols of the Royal Air Force may close the sea passages between Singapore, the Dutch Oil Islands and Australia against any Japanese fleet of considerable size, there is nevertheless the chance of Japanese commerce raiders penetrating into the Indian Ocean round the South of Australia. For the Australian Air Force would be quite well occupied looking after its own coast-line.

Under such circumstances a raid on some of the absolutely unprotected towns along the South-East coast of South Africa would be particularly tempting. On the whole, therefore, there seems to be plenty of scope for the South African Air Force for purely warlike work without bothering it to do work which can be done equally well, and perhaps even a trifle better, by well-equipped air lines and air survey companies.



AN AVIAN FOR SOUTH AFRICA.—The Avro Avian (Cirrus II) presented by the Shell Petrol Co. of South Africa Ltd. to the Aero Club of South Africa, for the Cape Town Flying Club.

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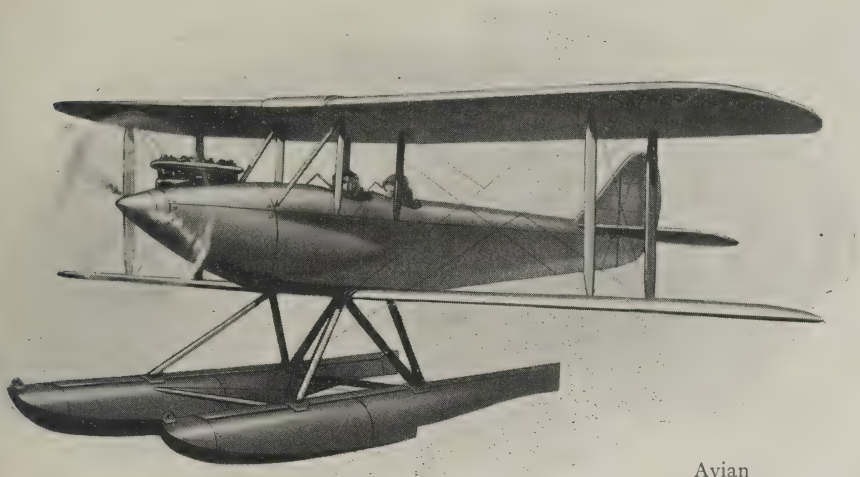
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In producing the Avian Mark II Landplane two lines of development have received special consideration. The first has been the elimination of the danger of damage to the machine in the event of a forced landing or a landing on unprepared ground; the second, the improvement of the utility of the aeroplane generally. The development of these two features has placed the Avian far ahead of all other light aeroplanes.

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A BRITISH AFRICAN AIR LINE.

Undoubtedly one of the most interesting propositions at present being considered in South Africa is the scheme for an air line from Cape Town to London by way of Cairo, the prime object of such a line being to carry gold from the Rand to London.

The organisation of this line is being worked out by Alan Cobham Aviation Ltd., and if energy, initiative and determination can assure success then this line ought to succeed. The qualities which have carried Sir Alan through his various big flights are precisely those which are needed to overcome the physical, psychological and political difficulties which are awaiting the pioneers of a great air-line down the spine of the African Continent. But when success comes it will bring an adequate reward, and one hopes to see Sir Alan Cobham, and Lt.-Col. Warwick Wright, who is associated with him in this undertaking, reap the harvest of their enterprise.

The man who has done more than anybody else to propagate this scheme is Mr. Samuel Evans, the Chairman of Crown Mines Ltd. Not long ago one had the pleasure of discussing this question in considerable detail with Mr. Evans. And one was very much struck by the complete grasp he has got of the possibilities of air transport.

He has no illusions about the safety and reliability of aircraft. He knows just what their weaknesses are. But having weighed up the whole subject in every detail he is fully convinced that the time has already come when such a line can be made a paying proposition.

In the course of this conversation Mr. Evans made one point which, though it is perfectly obvious when one is told, is precisely one of those things of which the ordinary man does not think for himself. That is, that the transport of gold, if once it is properly organised, supplies an almost regular load week by week.

As Mr. Evans put it very graphically, gold is a regular output it is not a harvest. Consequently the load of gold to be carried would not be subject to seasonal fluctuations. An air line carrying gold to London could be assured of the same load to within even a few ounces each week.

One of the disadvantages of the air transport of passengers, and of many kinds of goods, is that the load takes up so much room that the full weight which the aeroplane is able to carry can never be got into it. That is one reason why gold is such a satisfactory cargo. It is so heavy that an aeroplane can be loaded with it to its full weight-carrying capacity even after the cabin has been filled with passengers.

Possibilities of Gold Transport.

Some idea of the possibilities of gold transport may be gathered from figures which Mr. Evans gave one. The total output of gold from the Rand Refinery is about 390 tons per annum, or something like 7½ tons a week. The value of this gold is about £44,600,000, and it varies surprisingly little from one year to another. Of this 44½, roughly, millions, about 32½ millions goes straight to London and the other 12 millions to India.

There is also an enormous quantity of diamonds shipped from South Africa to England The value of these diamonds is £12,600,000 per annum, and, with their packing, their weight runs up to 3 tons.

Between the lot the gold and diamonds represent 67 per cent. of the total exports of South Africa. Thus it may be seen that the mere weight alone of the gold, even leaving out the diamonds, would make quite a nice total of freight for an air line without passengers and mails. And, as one has said, thanks to the small space occupied by gold, there would in fact be plenty of room left for passengers and mails.

Potential Revenue.

Some idea of the revenue to be derived from the job may be got from the freight charges which are already paid by shippers of gold to-day. In the year 1926, gold from the Rand paid for transport, including packing, £204,621. Of this £21,577 went to the South African railways. This amount should be particularly noted because of its political significance. And £181,044 went to the shipping companies.

The shipping companies do not charge for transport of gold by weight, they charge on the value of the stuff. Thus the charge from Cape Town to London is 6/6 per cent., and from Durban to Bombay the charge is 12/6 per cent. When these charges are translated into terms of weight, it means that the gold producers are paying the shipping companies £800 per ton for transport from South Africa to India, and £415 per ton for transport from South Africa to London.

Working on those figures, there seems a possibility that an efficiently run air line could very well transport all the gold from the Refinery at Johannesburg to Cairo, and take off the Indian consignments thence by the Baghdad—Basra route to India. Or, if we are going to let the Persians go on bullying us, and are going to establish a flying-boat line down the South side of the Gulf of Persia, there might even be a possibility of trans-shipping the Indian gold somewhere about Kenya and running it across Somaliland and the Straits of Aden to meet the flying-boats on the South coast of the Persian Gulf.

Even without bothering about the Indian portion of the gold supply, there would still be enough in the English supply alone to keep an air line going.

Bonus versus Subsidy.

There is another point which arises in this connection Mr. Evans, and other chiefs of the Gold Mining Industry who have considered this question, have come to the conclusion that with a really efficiently run air line direct from Johannesburg to London the time saved in transport would have the result of giving the owners of the gold a saving in interest of about £100,000 per annum. If that be so, then the gold producers and shippers could in fact very well afford to pay an air line more than they pay the shipping companies, at any rate to the extent of splitting with them the £100,000 thus gained in the form of interest.

Obviously if the whole of this gain were handed over to an air transport company, there would be no particular object in letting them handle the gold. But one does venture to suggest that in order to encourage an air transport company to take on the job, it might be well for the gold shippers to offer them the whole of this gain in the form of a bonus for, say, the first five years of operation.

This would serve instead of a subsidy. And it should induce the air transport people to run their line efficiently and to equip it with high-speed aircraft, for the faster they did the journey the more time they would save and the greater would be the amount of bonus they would earn in the form of interest.

From the gold shippers' point of view there is the still more important consideration that insurance rates on gold carried by air are lower than they are when it is carried by rail or ship. The reason for this is that although the risk of total loss is greater in an aeroplane than it is in a steamship or train, the risk of loss by theft is considerably less.



A USEFUL LIGHT AEROPLANE.—The latest type of Blackburn Bluebird (Armstrong-Siddeley Genet), with raised upper plane and increased comfort in the side-by-side cockpit.

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"IMPERIAL Airways' Argosies are said to be a source of constant annoyance to the inspection staff as they are so rarely able to discover any defects. These machines have given great satisfaction and have been singularly free from those irritating minor defects which have previously troubled the earlier career of new types of aircraft when subjected to regular air line service."

¶ *These tributes were written after twelve months' service on the London-Paris Airway.*

PRINCIPAL FEATURES:

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Let Us Make a Plan Now.

Thus it may be seen that there are very powerful arguments in favour of organising an air-transport line straight through from Cape Town to London as quickly as possible. Such a line is bound to be organised sooner or later. It is just as inevitable as was a steamship line from London to the Cape when the first steamships began to operate in a way which was in fact far more precarious than that of the aeroplanes of to-day.

In our days we have quite forgotten the enormous number of lives which were lost through steamships catching fire at sea and even on big rivers such as the Mississipi. The story of the burning of the *Amazon*, one of the early trans-Atlantic mail steamers, was one of the permanent nightmares of one's youth. So we may as well begin now to consider seriously the British African Air Line.

In discussing a London—Cape Town air line the question naturally arises as to whether the aircraft which take the gold to England are going to get any return load. You cannot run a transport line of any kind full one way and empty the other.

When once such a line is running there will certainly be plenty of load for it. South Africa manufactures practically nothing, as is shown by the fact that the gold and diamond exports are 67 per cent. of the total, almost all the rest being agricultural produce. Consequently there is any quantity of light and costly manufactured goods to be exported to South Africa at prices which will stand the cost of air transport.

Naturally such traffic would not come during the first year or so of the running of the line and the line would have to be subsidised to a certain extent by the various countries which it served, besides getting its bonus from the gold-shippers. But traffic on the line would grow inevitably as the commercial community gradually awakened to its usefulness.

The Links in the Line.

Already the most important middle link in the line is being organised by Capt. T. A. Gladstone, from Khartum to Kenya. He has so far, with the help of Sir Sefton Brancker, persuaded the Governments of Kenya, Uganda and Tanganyika into a frame of mind which pretty well assures their subsidising their part of the line. And there is no doubt that when the extension southward becomes a cut-and-dried proposition Northern and Southern Rhodesia will both do their share.

The Union of South Africa itself may conceivably be a little difficult to handle, because unfortunately, as already suggested, political feeling still runs very high and there is the possibility that whichever party chose to back the idea of subsidising the Southern end of the line might find itself strenuously opposed by the opposition.

The young South African of Dutch descent is in these days far too well educated and far too intelligent to imagine that the Union of South Africa would gain anything by cutting itself loose from the British Empire. The practical Dutch mind is never likely to make a complete fool of itself as does the Southern Irish mind. But the Dutchman is also very commercial, and the old jest of George Canning to the effect that "In matters of commerce the fault of the Dutch is offering too little and asking too much," is based on experience.

As an individual the Dutchman, whether European or South African, is one of the most hospitable and kind-hearted people in the World. But on a deal of any kind he is a hard nut to crack.

Canning's couplet applies just as much to the Dutchman's first cousins in England, the Yorkshire horse-dealer or the Norfolk farmer, as it does to the South African Dutchman. So there is no need for Dutch South Africans to take these remarks in any sense other than as a compliment to Dutch firmness of purpose. It was that same firmness in making a bargain which enabled a few thousand Boer farmers to keep most of the British Army busy for about three years. But unfortunately that same characteristic does make difficulty in agreement between the Dutch and English parties in South Africa. Nevertheless, when the Dutch Party in the South African Parliament has asked as much as they can and given as little as possible there is no doubt that in the end they will see the commercial benefit of having an air line through to London.

For the Good of South Africa.

Apart from gold and diamonds the general trade of South Africa is increasing steadily. The descendant of the primitive Boer farmer is to-day a thoroughly up-to-date agriculturist equipped with the most modern machinery which happens to fit his own particular type of farm. Whereas the old Boer did not care whether a letter arrived three months late or did not arrive at all, the young Dutch farmer makes a fuss if he does not get a letter from his business connections in Cape Town, Durban, London or New York by return post. Consequently the value of an air line taking letters to and bringing letters from London in less than a week instead of three weeks will soon be appreciated.

On the whole, therefore, there is every reason for those who are interested in the air line scheme to push ahead with it as fast as possible. As Rudyard Kipling has impressed on us in his famous motto for the Aerial Board of Control, "Transportation is Civilisation." So the sooner the line gets going the sooner civilisation will spread throughout Darkest Africa.



A FAST LIGHT AEROPLANE.—The Westland Widgeon (Armstrong-Siddeley Genet). The latest model, which has now been put into production. This machine was one of two Widgeons in the King's Cup Race, both of which finished out of five machines of all types which completed the course.

AIRCRAFT AND THE AFRICAN.

Writing of the African agriculturist suggests various ways in which aircraft apart from air mail or air transport service can be of use to the African farmer, not only in the Union of South Africa but in Rhodesia and the Central African Colonies.

One of the curses of the South African farmer is the locust. Just what those particular departments of the African Governments which have to do with agriculture are doing to combat the locust plagues one does not happen to know. But one does know that what the Americans call "bug-spraying" has been tried on a small scale in South Africa.

In America bug-spraying is now a well-developed industry. It started with spraying cotton crops to get rid of the boll-weevil. It has been extended to spraying tobacco crops. And in Canada it is actually used for spraying fruit trees.

A Chance for Enterprise.

There seems to be here quite an opportunity for private enterprise. In one's very early days, when corn was thrashed by an antiquated process in which a couple of horses walked round in a circle and turned a kind of capstan which drove a very clumsy mechanism through various chains of bevel gears and shafting, there was in one's home town an enterprising bank clerk who was threatened with consumption (the word tuberculosis was not then known to the people). Coming into a small legacy he invested in a steam threshing machine with which he toured the country and threshed the corn of the various farmers in a quarter the time which the job would have taken with the horse mechanism and at about half the cost to the farmer. He spent a healthy life in the open air, and if he did not exactly make a fortune out of it, he made a much better living than he ever did as a bank clerk and he certainly increased his capital to the extent of owning three threshing outfits when one last heard of him some twenty years ago.

The idea occurs to one that there are quite possibilities for enterprising young men to start out in Africa with bug-spraying outfits. Major Jack Savage, with all his experience of smoke production and distribution in the sky, might very well turn his attention to the production of machines which will distribute insecticide with similarly deadly effect.

In parentheses, one would like to congratulate Major Savage on the formation of a German Skywriting Company, which has adopted for its title the magnificent word "*Himmelschrift.*" And one offers to him free of charge the suggestion that he should devote his proven ingenuity to the production of crop sprayers. One is certain that there is money in it.

For the matter of that, there is no real reason why a crop-spraying outfit and a joy-ride show should not be run together. Each would act as an advertisement for the other, and the same pilots, with the same ground staff, and very possibly the same machines, could do both jobs.

Another possible source of revenue in British Africa is air surveying in its various manifestations. Regular readers of The Aeroplane know already that the Aircraft Operating Co. Ltd. is engaged in an enormous survey in Northern Rhodesia with the Congo Border Concessions. And some account of its work appears in this issue.

That, of course, is air surveying on wholesale lines. Probably there are enormous possibilities for similar surveys elsewhere in Central and South Africa. But there must also be opportunities for aerial photography and for air map-making on less elaborate lines.

Various townships would probably be glad of air photographs for town-planning and general improvement schemes. Farm owners would probably be glad of photographs of their property for various reasons, and local Governments making roads and railways equally need air photographs for their different purposes.

Such work might very well be run in conjunction with crop-spraying and joy-ride ventures. But possibly even a busy firm like the Aircraft Operating Co. Ltd. may find it worth their while to do such work as a kind of offshoot of their big survey operations. So that here also there is plenty of room for flying on a commercial basis.

The Owner-Pilot Operator.

The inhabitants of Equatorial and South Africa are by no means blind to the possibilities of aircraft, and now that we are getting down to something like car prices with aeroplanes there is every possibility of quite big business being done.

Only a few days ago one had an inquiry from a former officer of the R.F.C. now in Natal inquiring about prices for a light aeroplane equipped to carry boxes of day-old chickens. He breeds pedigree chickens in large quantities and his notion is to fly about the country to various farms within a a radius of 100 miles delivering chickens and lecturing on the proper maintenance and upkeep of poultry. There seems to be money in the idea.

After all, inter-communication is a matter of time and of distance. What matters in business is how many people you can see in a day and not what distance you can cover. So if you can see a man a hundred miles away in an hour, you can do business with him just as well as if you took an hour to walk four miles to see him. A man a hundred miles away is just as good a customer if you can get to see him in an hour as he is four miles away if you have to walk to see him.

Time and Load Factors.

This basic fact brings up the value of the cheap light aeroplane simply as a means of communication even without its value as a goods-carrying vehicle. Though, for the matter of that, the quickness of communication by air cancels out against the load carrying capacity.

For example, thirty years ago a man living on an African farm a hundred miles from the nearest important town would have taken perhaps ten days, or even more, with an ox wagon, to get to that town, and as long to get back. Consequently whenever he did visit the town he did all his shopping for the next three months or more, and took back with him a couple of tons of household and farm stores and implements.

In these days, thanks to Mr. Ford and more recently to Mr. Morris, the same hundred miles is covered in a couple of days' drive where the country is open, even if without roads. But it may take more owing to detours round broken country. Consequently the man with the automobile can run into town once a fortnight or so and he is content to take back with him stores for a couple of weeks.

In the near future the farmer with a light aeroplane can run into town after lunch and be back home for tea and he



AN AFRICAN AIR LINER.—A De Havilland 66 (Hercules) (three Bristol Jupiters) at Heliopolis, the African terminus of the Imperial Airway line to India and Australia, which will ultimately be the junction with the line to Cape Town. The machine is seen here with the personnel of Imperial Airways at Cairo.

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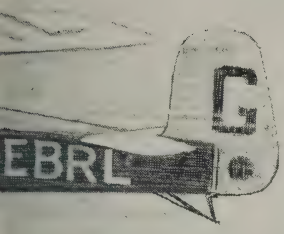
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can carry with him in the passenger seat of his machine anything up to 150 or 200 lbs. weight of whatever stores or implements he wants.

Only a few weeks ago a friend in Canada wrote giving an example of the usefulness of the aeroplane in this way. He was flying near a mine in a rather out-of-the-way part of Canada when a small but indispensable part of the machinery broke and the whole place was at a standstill. A telegram was sent to the manufacturer of the machinery in the States, the part was sent by the next post by the manufacturer and reached the nearest Canadian town in about two days. There it was picked up by his aeroplane and the plant was running a hundred miles away within two hours of the part leaving the railway town. By other methods of transport the mine would have been held up for ten days or more.

So far as one can gather the only privately-owned aeroplane between Khartoum and Cape Town in the last twelve months have been those owned by Lord Carbery in Kenya Colony and by Major Miller in South Africa, the latter being quite a recent importation.

Lord Carbery's is an ancient D.H.51, which has done extraordinarily good work for several years. The price of the D.H.51 was outside the means of the average African farmer, and so in spite of the good example set by Lord Carbery there have been no other aeroplanes imported into Central Africa since then.

On his Moth Major Miller has just made a political tour of the Union of South Africa with great effect. And it should go far to demonstrate to the enterprising young British African of to-day the value of personal air transport.

Our Chance to Take or Miss.

Everything in British Africa to-day is favourable towards flying. The steady and determined work of the South African Air Force ever since the War has gradually converted the slow-thinking Dutch South African to a belief in aviation. The work of Major Miller and the Solomon Brothers has laid the ground-work for the conversion of the whole Union of South Africa to a belief in flying. The brilliantly spectacular flight of Mr. Alan Cobham, before his Australian flight brought him a knighthood, impressed on all British Africans the immense possibilities of direct Imperial communication. The two visits by flights of the Royal Air Force to South Africa, done as ordinary Service exercises in co-operation with the South African Air Force, and run to a schedule as strictly kept as any railway time-table, has driven home the lesson of the reliability of aircraft. The general spread of education, and the passing of the control of agriculture from the old uneducated farming class to young and enterprising and highly educated men has opened up the possibilities of an enormous market all the way from the Great Lakes of Central Africa to Cape Town itself.

The question now is,—Will the British Aircraft Industry go out after that market? So far one firm has done so. That, of course, is the de Havilland Company, the pioneers of everything that has been worth doing in British Civil Aviation. But there is plenty of room in Africa for everybody. And if the other British aircraft firms do not go for the market our brothers on the other side of the Atlantic will do so.

When South Africa was equipping itself afresh with agricultural implements after the devastation caused by the Boer War, Mr. Edgar Wallace, now known as one of our most brilliant and prolific novelists and playwrights, who had been through the War as the correspondent of *The Daily Mail*, wrote in that paper a series of brilliant articles on the commercial possibilities of South Africa for the British manufacturer.

He pointed out, as one is continually doing in The Aeroplane, the need for enterprise on the part of British manufacturers if they did not want to get left. He rubbed into the makers of agricultural implements the fact that if they did not go for the business the Americans would get it. And he summed up the whole position in the brief phrase "The South African farmer is not going to wait six months for a *plough* if he can get a *plow* in six weeks."

To parody him one would say that the British African is not going to wait for years and pay an enormous price for an *aeroplane* if he can get an *airplane* in half the time for half the money with double the power,—and that is what America will be offering him within the next twelve months unless we get there first.—C. G. G.

THE SOUTH AFRICAN AIR FORCE.

The South African Air Force was established as a unit of the South African Defence Scheme in February, 1920.

Its inception was due almost entirely to the fact that the Imperial Government presented to South Africa a gift of aeroplanes, aero-engines, accessories and equipment. And up to the present this gift has enabled the South African Government to maintain a small but efficient Force at the smallest possible expense.

The extent and value of this Imperial gift can be gathered from the following inventory :—100 aeroplanes complete with engines, 28 spare engines, 250 transport vehicles, including workshop lorries, three-ton lorries, light tenders, trailers, cars and motor-cycles, steel framework for 20 permanent hangars, 30 Bessonneau hangars, complete W/T equipment for two squadrons, complete photographic equipment for two squadrons, 50,000 gallons of aero-engine oil, 20,000 gallons of paint, varnish and dope, tools sufficient to equip the S.A.A.F. mechanics, spares to maintain all the above for one year, and complete workshop machinery to enable any kind of aeroplane, aero-engine and transport repair and overhaul work to be done.

In addition to this, except for a few senior officers, the entire original personnel had been trained in and by Great Britain during the War 1914-18. With this very sound basis a small force has been maintained which has, to the best of its abilities, done some extremely valuable but largely unrecognised work.

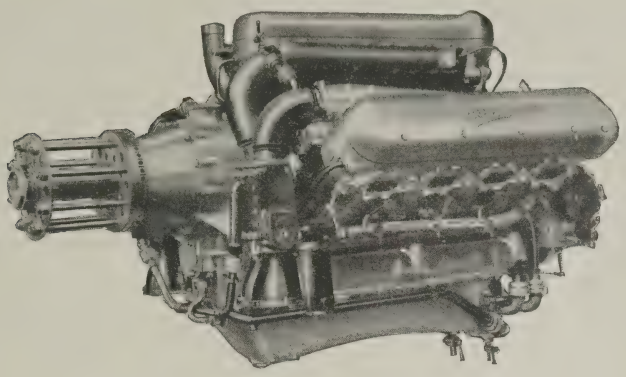
Although its work cannot compare with that done by Canada and Australia, both of which began their post-war existence under similar circumstances, it must be remembered that the S.A.A.F. has had to exist under very hard and almost antagonistic political conditions, with appropriations that have at times failed to purchase sufficient petrol to allow even the ordinary flying training to be maintained.

The first Director of Air Services was Colonel Sir Pierre Van Ryneveld, K.B.E., D.S.O., M.C., and he had under him a small nucleus of officers and men of the Permanent Force who had all the necessary qualifications and experience to enable the foundations of the S.A.A.F. to be laid.

These first appointments were made from applications received as the result of advertising, all of them being from officers who had had war-time training and experience.



SOUTH AFRICA'S AIR FORCE.—The Headquarters at Zwartkop Aerodrome, Roberts Heights, Pretoria.



This is the Napier Lion engine.

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It can fly for 30,000 miles (300 hours) without overhaul.

It is purchased by Governments in all parts of the world because it gives them a high performance and wonderful efficiency.

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It has flown to Cape Town (twice), Buenos Aires, Tokio, Alexandria, etc., without any mechanical trouble.

It is the most efficient, reliable and consistent engine ever produced.

It is the engine you should buy if you place the safety of your pilots and efficiency of your machines before other considerations.

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The first S.A.A.F. programme provided for the establishment of a Headquarters Depot with one Squadron of three flights of six machines.

Negotiations for the purchase of suitable land for an aerodrome, at Zwartkop, near Roberts Heights, Pretoria, were begun, but owing to the exorbitant price asked this land was expropriated.

A Depot was established at Roberts Heights and here were installed the Headquarters Staff and Clerical Section, the aeroplane, aero-engine and transport repair sections, the stores section, the photographic, W/T, armament, balloon and medical sections.

A scheme was drawn up for the subsequent recruiting of the Force and this scheme is still in existence.

All Air Force commissions, following the original establishment of the permanent nucleus, have been granted for periods of three years, which may be renewed for further periods of three years until retirement.

Lieutenants retire at the end of the period during which they attain the age of 30, and Captains at the end of the period during which they attain the age of 35.

All officers who are promoted to the rank of Major are offered permanent commissions.

Non-commissioned appointments are filled as the occasion demands from selected applicants after satisfactorily passing the trade tests or satisfactory apprenticeships, and these appointments are renewable for three-year periods as above, after short terms of probation.

Any N.C.O. or man may, assuming that his training does not interfere with his normal work, learn to fly. If he passes his qualifying tests and attains the necessary standard of efficiency, he may be given his wings. Having once obtained his wings, and assuming that he possesses the necessary educational qualifications, he may be appointed to commissioned rank as and when vacancies occur.

On completion of the necessary ground equipment, sheds, workshops, aerodromes, etc., the following organisation was established in 1922 :

(a) Headquarters, comprising staff, clerical section, armament section, W/T section and balloon section.

(b) Aircraft Depot, comprising staff, permanent guard, administrative office, mechanical transport, aero-engine and aeroplane repair workshops with their attendant clerical sections, aeroplane, aero-engine, transport and balloon stores, and miscellaneous services.

(c) One Squadron, consisting of Headquarters Flight and three Aeroplane Flights, as under—

(i) S.E.5 Flight,—The cadre of Fighting Squadron.

(ii) Avro Flight.—The cadre of Training and Artillery Observation Squadron.

(iii) D.H.9 and D.H.4 Flight—The cadre of a long-distance Reconnaissance, Bombing, Photographic and Communication Squadron

On Mar. 10, 1922, a Bolshevist rebellion in the Rand mining area near Johannesburg made it necessary for the Government to declare Martial Law and to mobilise the Army. At this time the S.A.A.F. was only in process of organisation but nevertheless it was mobilised and was immediately despatched to the disaffected area.

Two or three machines were sent to Benoni the headquarters of the rebels and one machine to the Brakpan Mine area.

These machines were on several occasions subjected to intense fire from the ground. Capt. Carey Thomas was killed in a flight over the Brakpan area, and Lieut. Hammon was wounded in a ground skirmish after the machine in which he was flying had descended to help another machine which was forced to land with engine trouble.

Colonel Sir Pierre Van Ryneveld, who was in command of the Benoni detachment, was fired at during one of his flights and in addition to having his radiator and petrol tank hit had fourteen bullet holes in other parts of his machine.

Apart from these individual incidents, the machines of the S.A.A.F. did a considerable amount of reconnaissance, bombing and machine-gunning, and in addition did much useful work in dropping supplies of food and ammunition to various bodies of the Government forces which had been cut off and surrounded by rebels.

After the failure of the rebellion Colonel Mentz, the Minister of Defence, issued a statement to the Press laying emphasis on the great part which the S.A.A.F. had played in the affair.

Thus the S.A.A.F. proved its worth to the Government very early in its career and in dealing with an insurrection of this nature it was pointed out that the knowledge of its offensive power before, and the moral effect of its employment during, this period, were of considerable assistance to the Government.

In 1922 the S.A.A.F. was again employed in suppressing a rebellion, this time the Bondelzwartz trouble in South-West Africa. Four machines were sent to Kalkfontein, about 700 miles from Walfish Bay, where they did much useful work in assisting the ground forces.

In 1924 the S.A.A.F. organised a Special Reserve of pilots, drawn from ex-R.A.F. officers in the Union. These officers after an initial refresher course of two months attend an annual course lasting two weeks.

The personnel of the S.A.A.F. have, in spite of stringent financial conditions, done considerable flying throughout the Union, and in the course of these flights have established over 100 aerodromes and landing grounds which can be quickly prepared for use when necessary.

For defence purposes the Union is divided into a number of divisions each under a Commando, and these are responsible for the condition of certain of the landing grounds in the territory under its jurisdiction.

Each year the S.A.A.F. co-operates with the land forces during their short period of intensive training and all types of aerial work, such as army co-operation, reconnaissance, artillery spotting, and the dropping of live bombs are practised.

In recent years a Flying Training School has been established at Zwartkop Aerodrome, to maintain the regular supply of officers, and this school is organised on the lines of the R.A.F. training schools.

In addition to the purely military flying the S.A.A.F. has done much aerial survey and photography.

In 1925 two S.A.A.F. machines co-operated with a scientific expedition into the Kalahari desert and a photographic sur-



SOUTH AFRICA'S AIR FORCE.—One of the S.A.A.F. D.H.9s (Siddeley Puma) on the tarmac at Zwartkop Aerodrome.

vey of a considerable region was made under very dangerous flying conditions.

A number of smaller surveys had been made at the request of various private individuals in the Rand mining areas, but so far the real value of aerial survey has not been realised by the civil population.

Other interesting experiments have been made at the instigation of the Department of Entomology and Forestry in the spraying of crops and trees for the extermination of pests.

The first tests were made in late 1925 over a gum plantation infested with the eucalyptus snout beetle. This was successfully sprayed with calcium arsenate powder and the results were very encouraging. Similar experiments were made to combat the ravages of the locust but these were not so successful.

The latest development in pest extermination is the possibility of the machine-gunning of herds of wildebeeste which, driven south by the drought, have invaded Swaziland and are causing great damage to crops and cattle.

The work of the S.A.A.F. in operating an experimental mail service from Cape Town to Durban is dealt with under the heading of Civil Aviation. This service operating under Winter conditions was very successful from the flying standpoint and demonstrated the high state of efficiency of the personnel of the S.A.A.F.

On Mar. 29, 1927, a flight of machines of the S.A.A.F. under the command of Major Meintjes, M.C., and consisting of Capt. Tasker, Lieuts Schoemann and Klopper, left Pretoria to fly to Kisumu to meet the R.A.F. Cape Flight which, under the command of Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., left Cairo on Mar. 30 to fly to Cape Town and back.

On Apr. 5 the South African flight of four machines reached Kisumu.

On Apr. 16 the combined Flights reached Pretoria where they were welcomed by General Brink, Sir Pierre van Ryneveld and other notabilities.

In 1927 the modernisation of the equipment of the S.A.A.F. was seriously considered. The first decision was to choose a new training machine and as it is the policy of the Dominion Air Forces to work as closely as possible with the R.A.F. the Lynx-Avro, now the Standard R.A.F. training machine, has been chosen.

Experiments are now being made with the modernisation of the D.H.9.

Machines of this type are being fitted experimentally with the A.D.C. Nimbus, the Armstrong-Siddeley Jaguar and the Bristol Jupiter and put through a series of comparative tests with a view to deciding which is likely to be the most suitable for South African conditions.

The one service Squadron consists of three Flights and each Flight is equipped with six D.H.9s and two S.E.5as. For training purposes the Avro is used for primary training and the D.H.4 for advanced work.

It is now obvious that South Africa is waking up to the possibilities of aviation. So long as the Government still includes the Air Force appropriations as a part of the Defence Vote and refuses to make allowances for re-equipment, little can be done, but with the advent of cheap private flying it is hoped that the practical demonstration of aviation will force the hitherto apathetic public to take a personal interest in what will be their cheapest and surest form of defence.—L. B.

CIVIL AVIATION IN SOUTH AFRICA.

Although South Africa contributed largely to the supply of officers and men to the Flying Services during the war 1914-18, since that period and until quite recently aviation has been allowed to lapse into a state of peaceful somnolescence. One deliberately says peaceful, because in spite of various notable flights made to Cape Town from 1920 onwards the population in general has steadfastly refused to see in these flights anything other than a certain amount of local emotional interest.

For this the general public are not entirely to blame. Before the war 1914, with the exception of a few pioneers who had visited South Africa for demonstration purposes South Africa knew little of what little progress had been made in Europe, and the stolid Boer was inclined, even as he is today, to regard the aviator as one who is suicidically inclined. That this impression still exists is due to the fact that all the men who joined the Flying Services during the war were trained in England, and although there are now many ex-R.A.F. officers in the Union there have been comparatively few aeroplanes in use there.

The war proved that the aeroplane was an effective Service weapon, but at the declaration of Peace it was not considered as a part of the South African Defence scheme principally on the score of local ignorance and also economy.

With the exception of service flying by the South African Air Force, whose activities have been seriously curtailed owing to the small amount of money that has been allotted for their use and a certain number of itinerant joy-riding concerns that sprang up after the war, which all died a natural death after doing very little good for the cause of aviation, the practical exhibition of Civil Aviation in the Union has been extremely small.

The sole exception to this was the efforts made by the concerted action of the Post Office Department and the S.A.A.F., who late in 1924 decided to operate an experimental air mail route between Durban and Cape Town, the whole of the organisation and flying to be done by the S.A.A.F.

In 1923 the South African Parliament passed an Aviation Act, and under that Act a Civil Aviation Board was set up for the purpose of drawing up regulations for and generally supervising the matter of aviation. This Board drew up a proposal for a three months' trial mail service between Pretoria and Cape Town which was estimated to cost £12,000—of which £8,000 was to come from the Post Office vote and £4,000 from the Defence vote.

This Board, with the co-operation of the Defence Department, also drew up a scheme for a service between Johannesburg and Cape Town. This later scheme went so far as to be included in the original draft Estimates for 1923-24,



SOUTH AFRICA'S AIR FORCE.—Almost the last of its race. One of the good old D.H.4s (Rolls-Royce Eagle).



A HAPPY MEETING.—Fairey III.Fs (Napier Lions) of 47 Squadron, R.A.F., from Heliopolis on the aerodrome at Livingstone, Northern Rhodesia, with the S.A.A.F. Flight.

and was to begin operations on Feb. 1, 1924. But in the final supervision of the estimates this allocation was cut out by the Minister of Finance, very much against the will of the then Minister of Posts and Telegraphs, Sir Thomas Watt.

Shortly after this the Government fell and the new Minister of Posts and Telegraphs, Mr. W. Boydell, immediately set to work to get the scheme re-instated. In the debate on the Post Office Estimates held in Sept. 1924 Mr. Boydell pointed out that every country in the world except South Africa was making headway in Civil Aviation. He added: "I am going to represent this point to my colleagues with a view to doing something in this line. . . . It is a country of long distances, and there is at least one town with 7,000 inhabitants with only one post a week. . . . All I want is a little money from the Treasury to establish an air service in South Africa equal to any in the world, and I will do anything I can to assist civil aviation in this country."

In 1924 Mr. Boydell succeeded in drawing up a scheme, to be operated by the Postal Department in conjunction with the S.A.A.F., for an experimental air mail service between Cape Town and Durban to cover a period of three months, during which it was estimated that sufficient data would be collected for the assistance of any further schemes which might be put forward by commercial companies.

This service began operations in March 1925, and ten D.H.9s, representing the whole equipment of the only active service squadron of the S.A.A.F., together with ten pilots, was used. It was so arranged that mail arriving by boat on the Monday from England was transported by air from Cape Town to Durban by way of Mossel Bay, Port Elizabeth and East London in ample time to permit recipients to reply by the boat leaving Cape Town on the following Friday.

This advantage also extended to mail passing through Durban for Pietermaritzburg and a large part of Natal. Inland mail was also carried, which showed a considerable saving of time over the older methods of transport and offered a useful alternative to the telegraph for urgent messages.

Machines were run on the relay system, the ten machines being spread over the route in the following manner:—Cape Town, three; Mossel Bay, two; Port Elizabeth, two; East London, two; and Durban, one. There were always two machines at Mossel Bay, Port Elizabeth and East London, and at each of these intermediate depots were quartered two pilots and a few mechanics.

Air mail surcharges were: *European Mails*: Postcards 3d., Letters per oz. 6d., and Parcels per lb. 9d. *Inland Mails*: Postcards 1d., Letters per oz. 3d., and Parcels per lb. 6d.

On inland mails the saving of time on a single journey from Cape Town to Durban was 22 hrs., to East London and Port Elizabeth 29 hrs., and to Mossel Bay 40 hrs.

From a technical point of view the service was a success. From March 1st to the end of the month it was intended to run under Summer conditions, and from then to the end of June, when it was to be discontinued, under Winter conditions.

On the first experimental flight, made on March 1, it was found that it was improbable that the 850 miles could be covered strictly to timetable in one day, so on March 2, when the service was definitely and successfully inaugurated, it was begun under the winter timetable, which allowed one and a half days for the completion of the whole route.

For the first six weeks' operations 12,000 miles were covered without a single failure to arrive on time, a remarkable record for flying over a sparsely inhabited mountainous country. But the response to the facilities offered were very poor and exceedingly discouraging.

Nevertheless, the service proved that even under Winter conditions such a service could be operated, and it did prove that the personnel of the S.A.A.F. were, in spite of the lack of financial encouragement and modern equipment, in a highly efficient condition.

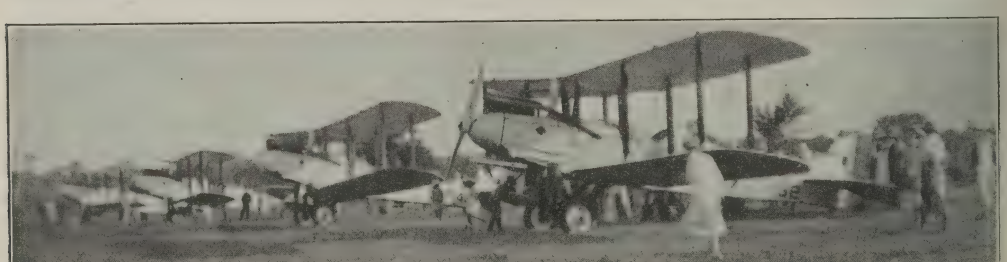
On the abandonment of the service, the Government invited commercial firms to tender for the service, offering an annual subsidy of £8,000, together with all the facilities with regard to aerodromes, etc., and the free use of the information as to flying conditions, collected by the S.A.A.F. during its operations of the service

The South African Government as a result received offers from four firms—two British, one Dutch, and one German—to operate an air mail route between Cape Town and Durban.

One of the Continental firms offered to run an experimental service for a short period with its own machines purely on the strength of what might happen after it had shown what it could do. One British firm submitted a most complete and detailed scheme for operating the service, describing the route mile by mile, and gave a more detailed report of the weather conditions along the route than could have been obtainable in the Union itself.

Finally, it was reported that the German company, the ubiquitous Junkers concern, was successful in its negotiations, and that it had been awarded a contract for the operation of a weekly air service between Cape Town and Johannesburg by way of Oudtshoorn, Port Elizabeth, East London and Durban.

It was agreed that the service should be operated for a short experimental period with alien equipment and personnel. If this was successful a further agreement was to be made, in which it would be stipulated that a company should be formed in South Africa, with only British subjects on the Board of Directors, four of them at least to be residents in South Africa, and one to be a nominee of the Union Government; that the service should be operated exclusively by South African personnel; and that the agreement would not be completed until a substantial financial guarantee had been lodged with the Government. For this the



A HAPPY MEETING.—The Flight of D.H.9s (Pumas) of the South African Air Force on the aerodrome at Livingstone with 47 Squadron's Fairey III.Fs.

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company would be granted an annual Government subsidy of £8,000.

This arrangement met with a large amount of hostile criticism from certain quarters, and it became necessary for the company to declare that it was not being subsidised by the German Government.

Even this declaration failed to impress many people as it had already been announced that in order to make the service pay it would be necessary to make £22,000 annually.

The Government rather guiltily explained that every effort had been made to induce British firms to interest themselves in aviation in South Africa, and it was only after realising the futility of further negotiations that the German interests had been brought into the field.

This declaration met with a certain amount of derision when it was realised that the extent of the encouragement offered by the Hertzog Government was the niggardly subsidy of £8,000.

The previous operations of the Government-operated service had shown that the likely public support was negligible, so that it was realised by any company with previous experience of civil aviation that the scheme was doomed to failure.

This turned out to be the case, for in spite of repeated requests for an extension of the time limit made by the Junkers company the scheme collapsed without its having advanced beyond the paper stage It did, however, show that there was a certain latent interest in aviation.

But the doubtful patriotism of the Government gave rise to much newspaper criticism which could not have done much to strengthen the doubtful faith of the ordinary man in the (South African) street.

The Government still left open its offer of the £8,000 annual subsidy, but it was not until early in 1927 that any further interest was taken in it.

The latest scheme put forward is for a service between Walfish Bay and Johannesburg, with the object of speeding up the receipt of British mail matter in the Union.

It is understood that it is the intention of the Government to make Walfish Bay the terminus for the service to and from which mails would be despatched and received. Walfish Bay is only twelve hours journey by air from Johannesburg and Cape Town, but it is three days nearer England than Cape Town.

The Union-Castle line, which holds the mail-carrying contract, does not at present use Walfish Bay as a port of call, but it is believed that it could be arranged, and negotiations are now proceeding.

Major Miller, D.S.O., a member of the South African Parliament, and of the South African Civil Aviation Board, who has done more for South African aviation than anybody, has also been striving to open up commercial aviation in the Union. He has begun negotiations for the operation of an air line between Johannesburg and Durban. He has visited England and the United States, and it has been stated that he has raised a sum of £35,000 for the formation of a company. The financial side of the question has been considered by the recently formed Alan Cobham Aviation Ltd., and it is hoped (in South Africa) that the service will begin operations this (English) autumn or (South African) spring.

The South African Government are prepared to pay an annual subsidy of £8,000, and it is understood that any subsidy granted by the Post Office Department for the carriage of mails will be distinct from the Government subsidy. Even so, the amount of subsidy seems ridiculous.

It will be seen that up to the present very little practical Civil Aviation has been seen in the Union, but at the moment the prospects are distinctly more hopeful than they have ever been.

The success of the various Cape flights and the advent of the light aeroplane, and the Light Aeroplane Club scheme are beginning to stir up interest.

Whereas in Great Britain, Australia, and now Canada, the Light Aeroplane Club has been the natural result of air-mindedness instilled by the success of Civil Aviation in other fields, it would appear that the case for South Africa will be reversed.

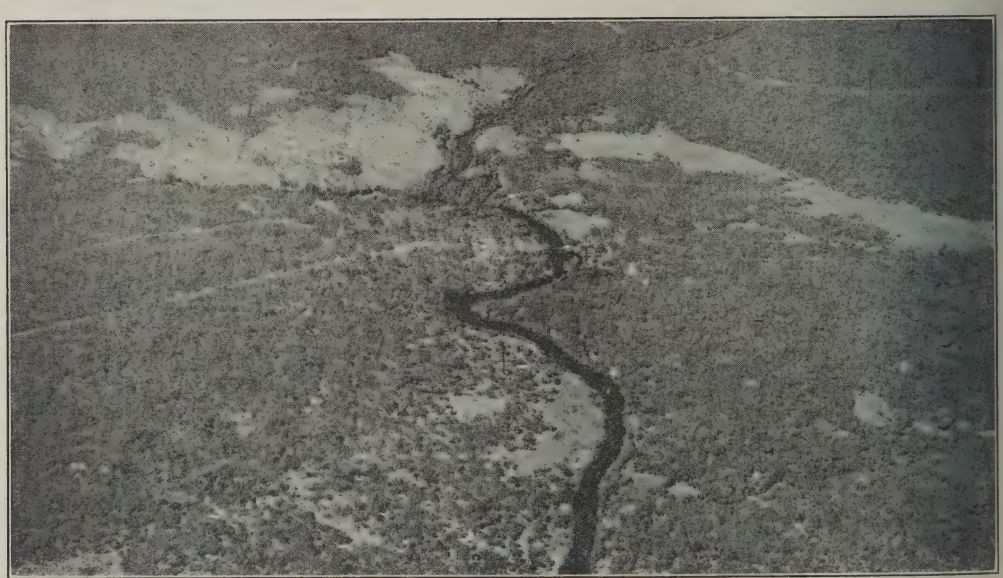
It is to be hoped that the recently-formed clubs in Johannesburg, Cape Town, East London, Port Elizabeth, and Durban will achieve the success which they deserve and take on the task of making South Africa realise the true value of Civil Aviation.—L. B.

AIR SURVEY IN BRITISH AFRICA.

The air survey which the Aircraft Operating Company are making for the Rhodesian Congo Border Concessions Ltd. is proceeding satisfactorily, and some notes on its progress will be of interest to anyone in British Africa who is sufficiently intelligent to understand the high potential value of aerial surveys to those who live in, or make a living out of, the vast unworked areas which belong to the British Empire. For the following information one is indebted to Major H. Hemming of the Aircraft Operating Co. Ltd., who are responsible for the expedition under Major Cochran-Patrick which is doing the work.

The first operation called for a photographic reconnaissance of some 20,000 square miles, and vertical photography of some 1,000 square miles. The work has proceeded entirely according to plan, and the new methods of air surveying evolved by the Company's experts have proved to be quite satisfactory.

The area owned by the Rhodesian Congo Border Concessions Ltd. covers some 52,000 square miles, and consists entirely of bush country, intersected by rivers and streams, and also a few motor roads and native tracks. The country is almost entirely unmapped except for the survey of the



BRITISH AFRICAN AIR SURVEY.—An oblique photograph looking down the Kafue river showing the pontoon on the T'Shensenda road.

boundary between Northern Rhodesia and the Belgian Congo which was done by the Anglo-Belgian Boundary Commission. The Survey Department of the Concessions Co. have also mapped some of the principal rivers and streams.

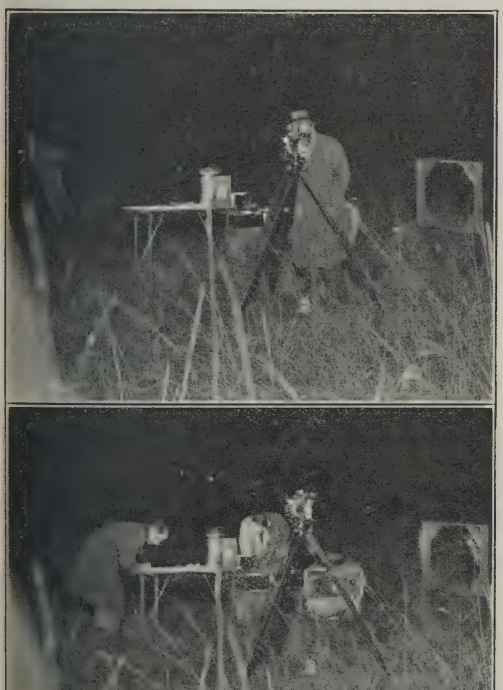
The nature of the country obviously called for the use of a specially designed air survey aeroplane, so that flying operations could be done safely without the risk of having to make forced landings in the bush. Unfortunately no such machine was in existence, and although the designs already existed it would have taken some time to build. As time was a very important factor in the making of the survey the Directors of the Concessions Co. decided to make emergency landing grounds in the bush each twenty miles from the next. A number of these grounds have already been made in the area of 20,000 square miles, and it will be realised that in having them made the Concessions Co. undertook a very considerable operation, which is bound to be of great benefit to Northern Rhodesia when regular flying develops, as it will before long.

The second operation is now being planned. The Aircraft Operating expedition proposes to make a reconnaissance of the balance of the area, covering approximately some 30,000 square miles. This area is quite unmapped.

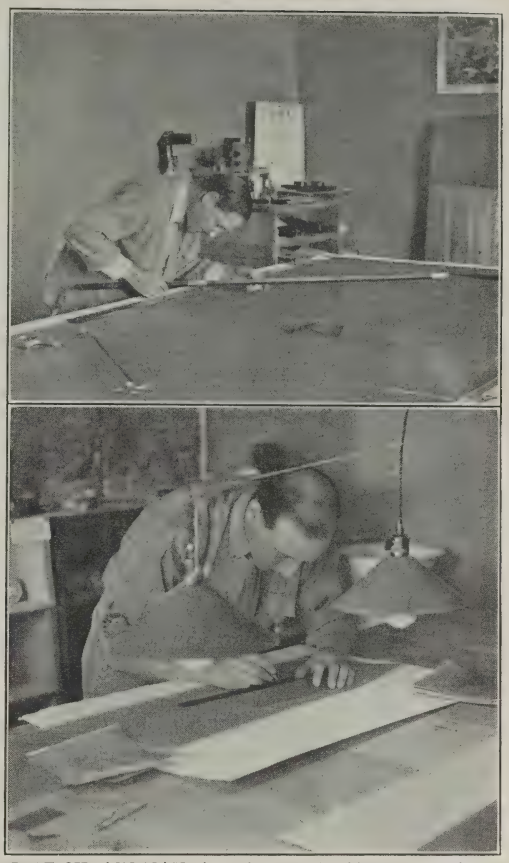
Two D.H.9-Nimbus aeroplanes will be used. One will be flown by Major Cochran-Patrick, D.S.O., M.C., the Director in charge of The Aircraft Operating Co.'s expedition. Mr. Corse, the firm's photographic specialist, will accompany him, to take photographs of the new area. The second machine will be flown by Mr. Roxburgh-Smith, late R.A.F., who will take with him one of the geologists of the Concessions Company. The useful geological information that the first operation has already obtained has proved the value of the aeroplane and the air camera for geological work, and it is because of this that the reconnaissance of the new area is about to be done.

Besides getting a general idea of the nature of the country supported by aerial photographs, the geologists hope to find indications of ancient mine workings, as such working will warrant development with modern methods and machinery.

Expeditions planned in England for operations abroad are very liable to fail unless the organisers have a great deal of previous experience to draw on. The old war-type D.H.9 was selected because it is undoubtedly the best existing type for air survey work until the new air survey aeroplane has been built. The two D.H.9s were specially adapted for photography, and fitted with extra strong undercarriages. Nimbus engines were fitted so as to secure the reliability of the Puma with the extra power that the Nimbus gives.



BRITISH AFRICAN AIR SURVEY.—A flashlight photograph of the surveyors of the Aircraft Operating Co. Ltd. receiving wireless signals for astrolabe observation at night in the bush.



BRITISH AFRICAN AIR SURVEY.—Above, marking control points for the N'Changa map. Below, Major Cochran-Patrick, commanding the Aircraft Operating Company's expedition, plotting controls for the N'Changa map.

The aircraft and engines have proved entirely satisfactory. Although the aircraft have to take off an aerodrome which is some 4,000 feet above sea level, air survey operations have been made at 14,000 to 16,000 feet with a load equivalent to the weight of a pilot and two passengers plus full fuel tanks. Parachutes are also carried.

The Company's choice of the Eagle air survey camera has been well warranted. Although this camera gave satisfaction on the Ordnance Survey, it was recognised that it was a somewhat different operation to use the camera in the heart of Africa. Major Cochran-Patrick had a very trying time at the beginning of operations, as the film proved to be too slow to permit suitable filters to be used to penetrate the tropical haze. Faster films were sent out, but they were not fast enough.

Finally in desperation films were ordered from the United States. At last however a British Company managed to produce the right film, and that problem has now been solved. But in the meantime Major Cochran-Patrick and Mr. Corse managed to get along with the job by hypersensitising the existing films with chemicals sent out to them,—no end of a job in Equatorial temperatures and in a home-made dark room.

With the shed and photographic laboratory built by the Rhodesian Congo Border Concessions Ltd. the Operating Co.'s Expedition have a model expedition in the field. Besides a very good shed the Expedition has fully equipped photographic laboratories and a drawing office.

The Operating Co. now also undertakes the provision of its own control points, and has on its staff a specially trained



BRITISH AFRICAN AIR SURVEY.—The Kafue Fall and Hippo Pool.



BRITISH AFRICAN AIR SURVEY.—A vertical photograph taken in the area which is being surveyed by the Aircraft Operating Co. Ltd. on behalf of Minerals Separation Ltd., for the Rhodesian Congo Border Concessions Ltd. The photograph shows geological work which is being done in the bush. The shafts on the left of the picture and the cross-cuts in the middle and right are dug to locate the ore body.

surveyor in charge of this work. The work is being done by wireless time-signals and astronomical observation.

The Company's staff on the spot are now engaged in making maps from the photographs already obtained.

The expedition has been inspected by officers of the South African Air Force and also by the Surveyor-General of Northern Rhodesia, and from inquiries with which the Aircraft Operating Company are now dealing the expedition seems likely to become a permanency in South Africa, and to extend further afield.

To meet this expansion the Company have secured the services of Major Logan on their Staff. Major Logan has a distinguished war record, and after the war he was in charge of training in Canada. Later he joined the Fairchild Company and was in charge of their Mapping Division.

He has been associated with a great many air survey operations both in Canada and the United States, so that he brings a great deal of useful experience to the Company. He is now with the expedition in the field and will probably take over from Major Cochran-Patrick, who will thus be released to extend the Company's operations. Eventually the Directors hope to establish a branch firm in South Africa.

One interesting result of the Expedition's work is that the new methods of air surveying which were planned as the result of the experiences gained on the Orinoco and Irrawaddy Surveys, and also as the result of the Air Survey Committee's recent researches, have proved entirely successful. Air survey costs will come tumbling down when once really large contracts can be obtained.

There are hopes that, as the result of the work done by the African expedition, Surveyors-General will pool their survey requirements, and take advantage of the fact that a fully-equipped expedition is now available for work.

In addition to the work being done by the Aircraft Operating Co. in Rhodesia, operations are contemplated elsewhere. Colonel Crosthwait, late Superintendent of the Survey of India, and a Director of the Company, is now in South America on the Company's business, and it is expected that an air survey expedition will be despatched there shortly. Arrangements are also being made to establish a branch firm in India.

In spite of the very bad weather experienced this summer, Aerofilms Ltd., the Company's subsidiary business working in England, have had a successful season so far. The Directors of the Aircraft Operating Co. Ltd. feel that air surveying has now become recognised by the Authorities, and look forward to many years of successful work, after the interesting but hard years of starvation diet that their personnel have had to go through in carrying out pioneer work in the past.

THE SOUTH AFRICAN LIGHT AEROPLANE CLUBS.

The birth of the Light Aeroplane Club movement in South Africa dates from December 7, 1926, when the Johannesburg Light 'Plane Club was inaugurated.

An Aero Club of South Africa had been started in Cape Town in 1920, but this club, after a short and very inauspicious life, faded away in 1922, partly owing to the effect of an accident upon a populace devoid of air sense and partly owing to internal troubles.

The club was resuscitated by Major Allistair Miller, D.S.O., O.B.E., A.F.C., a member of the South African Parliament, and the Civil Aviation Board, at the time of Mr. (now Sir) Alan Cobham's arrival in Cape Town in 1926.

A committee was appointed with Major Miller as chairman, Mr. L. E. Brockman as secretary, and the following ten members :—Lieut.-Col. de Sarigny, Major Frost, Major J. G. Swart, Capt. C. T. Black, Capt. P. J. Bradley (the Aviation Correspondent for *The Cape Times*), Capt. E. A. Lloyd, Capt. P. L. Lindup, Mr. F. Solomon (vice-chairman), Mr. R. P. Sain and Mr. A. Swart.

This committee set to work immediately, and after careful consideration it decided to adopt almost *in toto* the constitution of the old Aero Club, and this new constitution was subsequently adopted by a largely attended general meeting. Thus the new Aero Club of South Africa became a fact.

The aims and objects of the Club are as follows :—

(1) To encourage and develop the study of aeronautics in all its branches and to provide a centre of information and advice on all matters pertaining to aeronautics.

(2) To provide a reference library of works on aeronautics.

(3) To keep members supplied with information of new inventions, improvements and developments in aeronautics.

(4) To form branches and social clubs in different centres for all interested in aviation in which the principal aeronautical publications could be found.

(5) To organise and control competitions, sporting events and trials in connection with aeronautics in South Africa.

(6) Eventually to obtain country clubs or bungalows at service or municipal aerodromes where members could house machines and participate in flying.

(7) *To form a Light Aeroplane Club Section.* To purchase aircraft of suitable types and after satisfactory tests to allow members in this section to fly over certain areas to be defined. Teach members so wishing the arts of flying. The cost of this section to be borne by those participating in it. As a patriotic club those members proving their efficiency are asked to join the Reserve of Flying Officers.

For ex-Service flying men the entrance fee was fixed at one guinea with an annual subscription of one guinea. Non-flying members may join on the payment of the same entrance fee, but the annual subscription was fixed in their case at two guineas.

As already mentioned, the Johannesburg Club was inaugurated in December, 1926, as a unit independent from the Aero Club, but efforts are now being made to get it to affiliate with the central body.



AN INAUGURAL CEREMONY.—Lieut. R. R. Bentley presenting a bouquet to the Hon. Lady Bailey after the baptism of the Moth presented to the Johannesburg Club by the "Johannesburg Star."

Its inauguration was attended by a large and enthusiastic gathering of citizens headed by the Mayor of Johannesburg, Mr. A. Law Palmer.

At this meeting, which was held at the Selbourne Hall, one hundred and thirty persons of both sexes signed forms of membership, and the first to do so was the Mayor.

The Governor-General, Major-General H.E. the Rt. Hon. the Earl of Athlone, G.C.B., G.C.M.G., G.C.V.O., D.S.O., consented to become the Patron-in-Chief, and the following prominent individuals became identified with the club :—

Dr. Samuel Evans (Chairman of the Crown Mines, and South Africa's great economist), President; Sir C. Llewellyn Andersson, Colonel C. F. Stallard, D.S.O., M.C., K.C.; A. V. Lindbergh, Esq., and W. Gemmil, Esq., Vice-Presidents; A. Law Palmer, Chairman; C. R. Thompson, D.F.C., Vice-Chairman; R. Douglas, Hon. Secretary; and H. D. Evans, Hon. Treasurer.

Colonel C. F. Stallard, in proposing the formation of the club, moved :

That this meeting of citizens, convened by his Worship the Mayor of Johannesburg, is definitely of opinion that for national reasons the time has arrived for the active promotion and encouragement of aviation in this country and to that end and in order to provide members of both sexes of this community with the necessary facilities at a reasonable cost, agrees to establish forthwith a flying club to be known as the "Johannesburg Light 'Plane Club."

This motion was unanimously accepted, and a committee was formed, consisting of : The Mayor, Mr. Christie, Mr. Seals Wood, Mrs. Pemberton, Dr. S. Evans, Messrs. C. R. Thompson, S. Malcolm Wood, P. L. Lindup, H. D. Evans, H. Harper, W. French, E. Millin, G. Makepeace, and R. Douglas (Hon. Secretary).

The first action of the club was to organise an aerial display at Baragwanath aerodrome for the benefit of its funds. With the permission of the Defence Department, a detachment of the S.A.A.F. gave a brilliant exhibition of flying. This display attracted over 20,000 spectators, which for a city with a population of, roughly, one million demonstrates the keenness, or at any rate the curiosity, of the local inhabitants and augurs well for the success of the club.

Before this display had taken place over £400 has been raised towards the purchase of a machine, and, as the result of additional funds from the display, a D.H. Moth was ordered. This is now on its way to South Africa and should be flying this month.

The local press led by *The Johannesburg Star*, a paper which has always shown enthusiasm for aviation, and has done a lot to further its interests in the face of adversity, has given its whole-hearted assistance, and this has led up to the buying of a D.H. Moth by this journal, on which Lieut. R. R. Bentley, S.A.A.F., is about to attempt to fly to Johannesburg.

Another gallant attempt to promote interest in light aeroplanes has been made by Major Miller, whose name automatically appears wherever South African aviation is mentioned.

Early in 1927 he bought a D.H. Moth, took it to Cape Town, and after assembling it and flying it off the dock-side he made a tour of the Union covering a distance of 2,300 miles strictly to schedule.

In the course of this tour he demonstrated the ease of operation of the machine to all who were likely to be interested, and by this tour no doubt influenced many to support the birth of the Light Aeroplane Club in towns other than Cape Town and Johannesburg.

As has already been mentioned the Aero Club of South Africa, situated at Cape Town, formed a Light Aeroplane Section and at a later date the name of the section was changed to the Cape Town Flying Club, so that the more comprehensive name of the Aero Club of South Africa might be taken by the new Central Body to which it is hoped all the provincial clubs will eventually be affiliated.

Through the munificence of the Shell Petrol Company of South Africa, the Cape Town Flying Club has become the possessor of an Avro Avian II (Cirrus II engine), and on Aug. 23 this machine was officially handed over by the Avro Company to the Directors of the Shell Petrol Company for ultimate delivery in South Africa.

Other Clubs have been formed in Durban, Port Elizabeth and East London, and although these Clubs have not so far acquired any flying equipment, local enthusiasm is such that it is only a matter of time before all the Clubs are working.

These Clubs are fortunate in being formed at a time when aviation at last seems to be arousing widespread interest throughout the Union. They are also able to draw on a large number of ex-R.A.F. officers all of whom are very keen.

The Port Elizabeth Light Aeroplane Club, the youngest of the batch, has gone to the trouble of circularising all the English Clubs asking for information concerning equipment, cost of operation, insurance, depreciation, etc.

The East London Light Aeroplane Club has this week cabled an order for a D.H. Moth.

Although no South African Club has actually begun operations, things are sufficiently far forward to ensure success.

The Light Aeroplane movement has achieved extraordinary success in England and Australia so that it is not too much to hope that the South African Clubs will arouse in the Union a wave of airmindedness that will reflect favourably on aviation in general and help to provide the support for the S.A.A.F. and Civil Aviation which has been so conspicuous by its absence since the outbreak of the Great Peace.—L. B.

AN AVRO AVIAN FOR CAPE TOWN.

On Aug. 23 an interesting little ceremony took place at the Avro Aerodrome, Woodford, when an Avian two-seater light aeroplane was handed over to the Directors of the Shell Petrol Company, who are presenting it to the Cape Town Flying Club with a view to encouraging civil aviation.

The machine was handed over by Mr. R. H. Dobson, Works Manager of A. V. Roe and Co. Ltd., and accepted by Mr. J. S. Cartwright, South African Manager of the Shell Co.

After the machine had been handed over Mr. H. A. Brown, Chief Instructor of the Lancashire Aero Club, took the machine up and gave an exhibition of very pretty flying.

Mr. Cartwright was very optimistic as to the future of flying in South Africa and said that the fine climate, good visibility and numerous stretches of sand suitable for landing, were all in its favour.

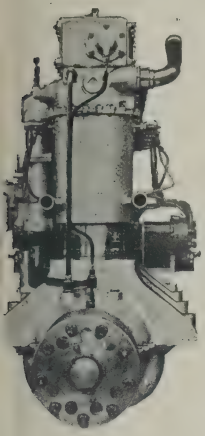
The following is lettered on the machine :—

Presented to the Aero Club of South Africa by the Shell Company of South Africa Ltd., with a view to the encouragement of civil aviation in the Union.



THE CAPE TOWN AVIAN.—Left to right : Mr. R. H. Dobson (Works Manager, A. V. Roe and Co. Ltd.), Mr. J. S. Cartwright (South African Manager of the Shell Co.), Mr. Shaw, Mr. Hill, and Mr. R. H. Sharp, all of the Shell Co.

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300/330 h.p. A.D.C. "NIMBUS" ENGINES

have been supplied by us to the

SOUTH AFRICAN GOVERNMENT

and to the

AIRCRAFT OPERATING COMPANY

for their

RHODESIAN AIR SURVEY.

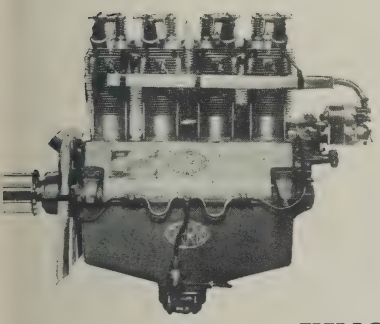
"NIMBUS" engines have also been supplied to the AUSTRALIAN GOVERNMENT, THE IRISH FREE STATE AIR FORCE, several Aircraft Constructors, etc., etc.

Extract from letter received from a Member of the Rhodesian Air Survey:

"We have both machines erected and engines installed, and the first test flight was performed on the 13.4.27 which was very successful, and we are very pleased with the performance of the engine at this altitude, which is 4,500 feet above sea level.

"The engines are running perfectly and not giving a moment's trouble."

The "NIMBUS" installation is interchangeable with the "PUMA."



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THE AUSTRALIAN AERO CLUBS.
THE CANADIAN GOVERNMENT.
THE IRISH FREE STATE AIR FORCE.
TWELVE DIFFERENT COUNTRIES,
etc etc.

KINGS' CUP AIR RACE.

1st IN 1926.

"CIRRUS—MOTH" (Capt. H. S. Broad).

1st IN 1927.

"CIRRUS—MOTH" (Capt. W. I. Hope).

MAJOR MILLER, referring to his flight around SOUTH AFRICA in a week (April, 1927), in a "CIRRUS" engined "MOTH," writes:—

"On the performance of the machine and engine I have nothing but praise."

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THE ROYAL AIR FORCE.

Appointments.

Week ending Aug. 29.

General Duties Branch.—Squadron Leaders F. E. Hellyer, O.B.E., to H.Q., Inland Area, Stanmore, 1/9. L. J. MacLean, M.C., to Home Aircraft Depot, Henlow, 8/8. T. F. W. Thompson, D.F.C., to R.A.F. Depot, Uxbridge, 3/9.

Flight Lieutenants A. H. Orlebar, A.F.C., to Air Ministry, Directorate of Organisation and Staff Duties, 3/9. C. B. S. Spackman, D.F.C., to H.Q., Halton, 5/9. A. W. Wray, M.C., D.F.C., A.F.C., to A. and G.S., Eastchurch, 25/8. C. E. H. Allen, D.F.C., to Home Aircraft Depot, Henlow, 5/9. H. A. L. Pattison, to R.A.F. Depot, Uxbridge, 8/8. G. G. H. Du Boulay, to School of T.T. (Men), Manston, 31/8. A. MacGregor, D.F.C., to Staff College, Andover, 29/7. E. M. Drummond, to E. and W.S., Flowerdown, 15/8. C. R. Davidson, M.C., to H.Q., India, 8/7. R. L. Crofton, M.B.E., A.F.C., to No. 17 Sqdn., Upavon, 1/9. C. D. Adams, to H.Q., Halton, 12/9.

Flying Officers E. V. S. Lacey, to E. and W.S., Flowerdown, 16/8. R. H. Barlow, to R.A.F. Training Base, Leuchars, 1/9. E. C. Evans-Evans, to E. and W.S., Flowerdown, 26/7. G. P. Macdonald, to No. 25 Sqdn., Hawkinge, 26/8. M. V. Ward, to No. 405 Flight, Donibristle, 21/7. S. C. Parker, to R.A.F. Depot, Uxbridge, 5/7. W. Anderson, to R.A.F. Depot, Uxbridge, 8/8. R. A. R. Mangles, to R.A.F. Station, Worthy Down, 22/8. J. E. W. Bowles, to No. 420 Flight, Gosport, 22/8. C. H. Ratcliffe, to No. 9 Sqdn., Manston, 19/8.

Pilot Officers J. E. McC. Henderson, to No. 27 Sqdn., India, 2/8. D. J. R. Hylton, to No. 5 Sqdn., India, 21/7. J. W. Pease, to No. 4 Sqdn., Farnborough, 20/8. The undermentioned Pilot Officers are posted on appointment to Perm. Comns. from the R.A.F. Cadet College, Cranwell, with effect from 30/7:—F. R. Worthington, C. McK. Grierson, C. W. Grannum and C. H. Turner, to R.A.F. Base, Calshot. A. W. Sandeman and W. D. Butler, to No. 16 Sqdn., Old Sarum. L. P. Moore and C. C. O'Grady, to No. 4 Sqdn., Farnborough. J. W. Gillan, to No. 111 Sqdn., Duxford. C. D. C. Boyce, to R.A.F. Base, Gosport. A. P. F. M. Berkeley and J. A. H. Louden, to No. 207 Sqdn., Eastchurch. M. G. Philpott, to No. 29 Sqdn., Duxford. R. A. T. Stowell, to No. 32 Sqdn., Kenley. E. J. Watson, to No. 25 Sqdn., Hawkinge. de L. Cooke, W. M. Moore and R. J. O. Bartlett, to No. 13 Sqdn., Andover.

Medical Branch.—Flight Lieutenant D. Loughlin, to School of T.T. (Men), Manston, 26/8.

Flying Officers J. E. Foran, M.B., to H.Q., Egypt, 12/8. J. McCarren, to Research Laboratory and M.O.S. of I., on appointment to a S.S. Comn., 17/8. Flying Officers (Dental) H. J. Eagleson, to Station H.Q., Andover, 29/8. A. P. McClare and S. McC. Craig, to R.A.F. Depot, Uxbridge, on appointment to Temp. Comns., 18/7.

Stores Branch.—Wing Commander G. A. Hilliar, to H.Q., Inland Area, Stanmore, 16/8.

Squadron Leader A. Burtenshaw, O.B.E., M.C., to R.A.F. Depot, Uxbridge, 22/7.

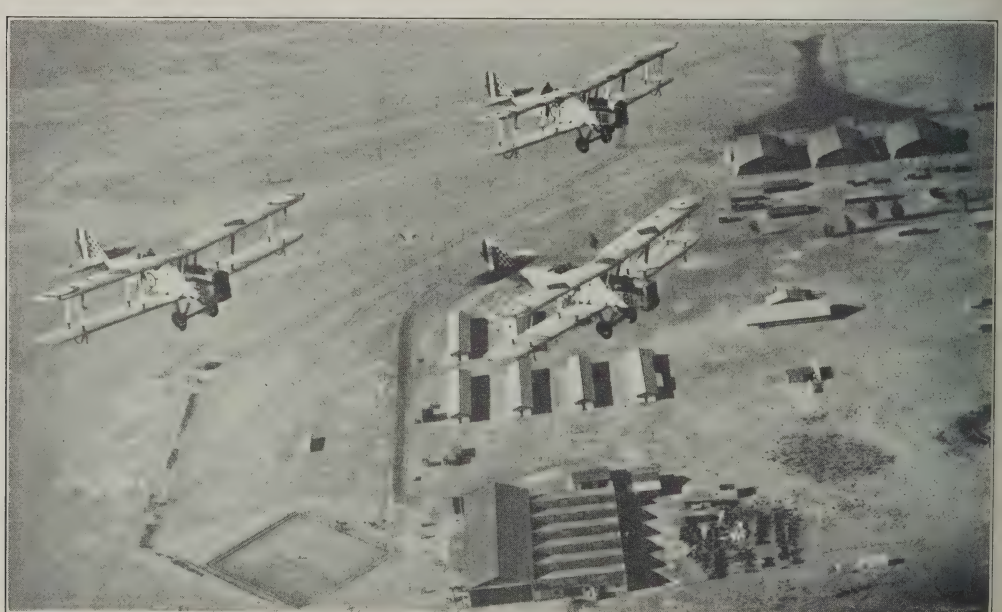
Flying Officers O. G. Ridley, M.C., to No. 25 Sqdn., Hawkinge, 19/9. L. Horwood, M.C., to Far East Flight, Felixstowe, 18/8.

The Fleet Air Arm.

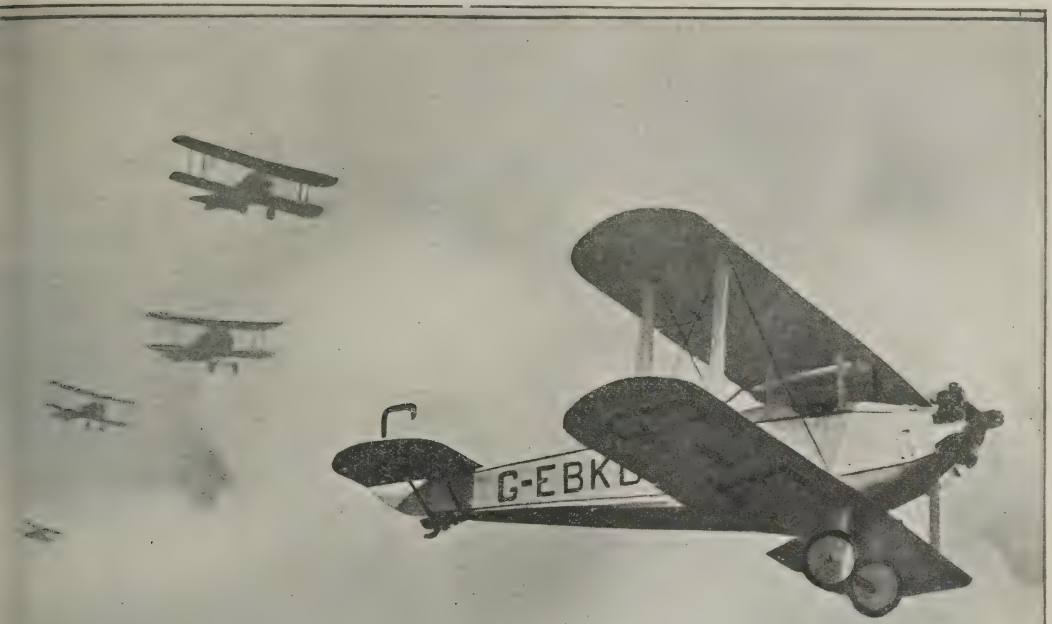
The following appointments were made by the Admiralty on Aug. 23:—

Lieuts. (Flt. Lts., R.A.F.).—C. J. N. Atkinson, to *Argus*, and for full flying duties to 404b Flight, in command; A. M. Kimmins, to *Furious*, and for full flying duties in 461 Flight, in command (Sept. 1); E. W. Anstice, to *Vivid*, addl., for *Courageous*, and for full flying duties in 464 Flight, in command (Sept. 1), and to *Courageous*, and for full flying duties in 464 Flight in command (on commg.); S. Richardson, to *Vivid*, addl., for *Courageous*, and for full flying duties in 446 Flight, in command (on expiration of foreign service leave), and to *Courageous*, and for full flying duties in 446 Flight, in command (on commg.); and E. J. S. Knocker, to *Furious*, and for full flying duties in 420 Flight, in command (Sept. 1).

Lieuts. (Flg. Offs., R.A.F.).—I. R. Grant and J. H. Burroughs, to *Furious*, and for full flying duties in 405 Flight (on expiration of foreign service leave); E. B. Carnduff, to *Vivid*, addl., for *Courageous*, and for full flying duties in 460 Flight (on expiration of foreign service leave), and to *Courageous*, and for full flying duties in 406 Flight (on commg.); A. M. Rundle and H. Ditton, to *Vivid*, addl., for *Courageous*, and for full flying duties in 407 Flight, and to *Courageous*, and for full flying duties in 407 Flight (on commg.); T. O. Bulteel, to *Tamar*, and for full flying duties in 401 Flight (Sept. 1); G. H. Birley, to *Vivid*, addl., for *Courageous*, and for full flying duties in 407 Flight (Sept. 1), and to *Courageous*, and for full flying duties in 407 Flight (on commg.); J. F. M. Robertson and A. M. Pilling, to *Hermes*, and for full flying duties in 403 Flight (Sept. 1); P. B. McDonald, to *Vivid*, addl., for *Courageous*, and for full flying duties in 407 Flight (Sept. 1), and to *Courageous*, and for full flying duties in 407 Flight (on commg.), R. J. Berry, R. G. Poole, and M. Cursham, to *Vivid*, addl., for *Courageous*, and for full flying duties in 463 Flight (Sept. 1), and to *Courageous*, and for full flying duties in 463 Flight (on commg.); R. H. S. Rodger, to *Vivid*, addl., for *Courageous*, and for full flying duties in 464 Flight (Sept. 1); and to *Courageous*, and for full flying duties in 464 Flight (on commg.); J. Nicholson, to *Vivid*, addl., for *Courageous*, and for full flying duties in 463 Flight (on expiration of foreign service leave); and to *Courageous*, and for full flying duties in 463 Flight (on commg.); G. R. M. Robertson, to *Vivid*, addl., for *Courageous*, and for full flying duties in 445 Flight (Sept. 1); and to *Courageous*, and for full flying duties in 445 Flight (on commg.); F. H. G. Oliphant, to *Vindictive*, and for full flying duties in 444 Flight (Sept. 1); F. G. Wynne and N. R. Courthope-Munroe, to *Vivid*, addl., for *Courageous*, and for full flying duties in 445 Flight (on expiration of foreign service leave); and to *Courageous*, and for full flying duties in 445 Flight (on commg.); C. N. Lentaigne, to *Argus*, and for full flying duties in 441 Flight (Sept. 1); C. R. V. Pugh, to *Vivid*, addl., for *Courageous*, and for full flying duties in 446 Flight (on expiration of foreign service leave); and to *Courageous*, and for full flying duties in 446 Flight (on commg.); E. E. B. Blackwell, to *Victory*, to be lent to R.A.F. Flight (on completion of foreign service leave); R. H. Barrett, to *Furious*, and for full flying duties in 406 Flight, temp. (Sept. 1); and to *Hermes*, and for full flying duties in 403 Flight (on recommg.); C. A. R. Gibb, to *Eagle*, and for full flying duties in 460 Flight, from date of sailing; C. W. Phillips, to *Furious*, and for full flying duties in 461 Flight (Sept. 1); J. E. Fenton, to *Furious*, and for full flying duties in 443a Flight, temp. (Sept. 1), and to *Hermes*, and for full flying duties in 440 Flight (on recommg.); D. W. MacKendrick, to *Argus*, and for full flying duties in 441 Flight (from date of sailing); J. W. Hale, to *Tamar*, and for full flying duties in 442 Flight (from date of sailing); R. P. Garnett,



FROM SALONIKA TO THE SUDAN.—"B" Flight of No. 47 (Bombing) Squadron, R.A.F., flying over their aerodrome at Helwan, Egypt, on Dec. 24, 1926. No. 47 Squadron arrived in Salonika on Sept. 20, 1916, four months after its formation. The Squadron saw continuous service from that date until it left South Russia in October, 1919, for Egypt. A detached Flight of No. 47 Squadron is stationed at Khartum.



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to *Furious*, and for full flying duties in 443a Flight (Sept. 1); G. M. Pares, to *Vindictive*, and for full flying duties in 444 Flight (from date of sailing); A. M. McKillop and H. A. Traill, to *Vivid*, addl., for *Courageous*, and for full flying duties in 445 and 446 Flights respectively (Sept. 1); and to *Courageous*, and for full flying duties in 445 and 446 Flights (on commg.); F. W. N. Bassett, to *Argus*, and for full flying duties in 422 Flight (from date of sailing); and J. H. M. Wood, to *Tamar*, and for full flying duties in 443b Flight (Sept. 1).

The R.A.F. Cadet College.

The following Flight Cadets successfully completed on July 29 their course of training at the Royal Air Force Cadet College. The names are arranged in alphabetical order :—

Bartlett, R. J. O., Berkeley, A. P. F. M., Boyce, C. D. C., Butler, W. D., Cooke, de L., Gillan, J. W. (Winner of R. M. Groves Memorial Prize), Grannum, C. W., Grierson, C. McK. (Winner of Air Ministry Prize for Aeronautical Science), Louden, J. A. H. (Winner of Air Ministry Prize for Humanistic subjects), Moore, L. P., Moore, W. M., O'Grady, C. C., Philpott, M. G., Sandeman, A. W., Stowell, R. A. T., Turner, C. H., Watson, E. J., Worthington, F. R. (Winner of Abdy Gerrard Memorial Prize and Sword of Honour).

Fatal Accidents.

The Air Ministry regrets to announce that as the result of an accident at Upavon to a Woodcock machine of No. 3 (Fighter) Sqdn., at approximately 10.45 a.m., on Aug. 26, Plt. Off. Harold Cyprian Kelly, the pilot, and sole occupant of the aircraft, was killed.

At the inquest at Upavon on Aug. 27, Flt. Lt. M. F. West, V.C., stated that he saw the Woodcock machine flying in a northerly direction at about 400 ft. Near the main road the pilot shut off his engine, put the nose of the machine down slightly and turned to the left. The machine immediately spun round three times and dived from a height of about 40 ft. Sjt. Plt. French said that he had tested the machine and found it airworthy in every respect.

The Air Ministry regrets to announce that as the result of an accident at Heliopolis Aerodrome, Egypt, to a D.H.9a machine of No. 45 (Bombing) Sqdn., on Aug. 24, 314826, F-S. Gilbert Smith was seriously injured, and died in hospital on Aug. 26, 335007 L-AC. (Acting Sjt.) George Bruce Gillie, the pilot of the aircraft, was seriously injured.

The Air Defence Group, R.A.F.

Air Commodore E. L. Gerrard, C.M.G., D.S.O., R.A.F., whose appointment as Air Officer Commanding the Air Defence Group, R.A.F., from Aug. 9, has recently been announced, was born in Dublin in 1881 and educated at Warwick School.

He entered the Royal Marines in 1900 and was promoted to the rank of Captain in 1911 and Brevet Major in 1914.

Capt. Gerrard learned to fly at Eastchurch on a Short biplane, as one of the first four officers detailed by the Admiralty to study aviation, and his Royal Aero Club certificate, No. 76, is dated May 2, 1911. In July, 1914, he was gazetted a Squadron Commander in the Royal Naval Air Service and in October of that year he commanded a Squadron of the R.N.A.S. during the siege of Antwerp. He also took part in the first raid against the Zeppelin sheds at Düsseldorf.

In 1915 Squadron Commander Gerrard was appointed to command No. 1 Wing, R.N.A.S., in the Eastern Mediterranean and assisted in the Dardanelles campaign. In 1916 he was awarded a D.S.O. in recognition of his services while commanding No. 1 Wing.

On Jan. 1, 1919, he was appointed a Companion of the Most Distinguished Order of St. Michael and St. George for distinguished services during the war.

On the formation of the R.A.F. on Apr. 1, 1918, he became a Colonel commanding a Group, the equivalent of the modern rank of Group Captain. In June, 1920, Group Captain Gerrard was appointed to command the R.A.F. at Malta. In August, 1921, he was appointed to the R.N. Staff College, Greenwich, for a course, and in February, 1922, he was appointed to command No. 1 Group, R.A.F., then with Headquarters at Kenley. He was promoted to the rank of Air Commodore in January, 1923, and in 1924 became Air Officer Commanding, Palestine Command, R.A.F.

The Service Flying Boat Cruise.

The Secretary of State for Air, Sir Samuel Hoare, who left Felixstowe on Aug. 12 in a Service flying-boat for a cruise to Oslo and back, returned on Aug. 25 after a journey of 1,400 miles. Four Service machines took part in the cruise, and Sir Samuel Hoare was a passenger in one of them, the Blackburn Iris II (three Rolls-Royce Condors).

This particular machine left Copenhagen at 08.30 hours on Aug. 24 on her return journey. In spite of bad weather they arrived at Esbjerg at 12.30 hours. They left Esbjerg at 13.45 hours and arrived at Felixstowe, *via* Helgoland, at 17.30 hours.

In an interview with the Press on his return Sir Samuel Hoare said that the weather was rather rough throughout the flight. Everywhere the flying-boats were operated independently of any shore base. At Oslo the Queen and Crown Prince of Norway had a flight in the Iris. The programme of the cruise was adhered to throughout.

Having de-barked the Secretary of State for Air, the Iris returned to the Baltic and rejoined the other flying-boats for the rest of the cruise which is to end at Felixstowe on Sept. 11.

The Times correspondent in Danzig in a message dated Aug. 28 states :—

The R.A.F flying-boats Blackburn Iris, Saunders Valkyrie, Short Singapore, and Supermarine Southampton arrived this morning at Putzig, Poland

R.A.F. in Shanghai.

The Special Correspondent of *The Daily Mail* at Shanghai in a message dated Aug. 23 states :—

In view of the new activity of the Communist and anti-British elements here the foreign community in Shanghai views with great regret the impending return to England of the members of the R.A.F.

The aeroplanes are already being packed up for embarkation with the personnel early next month.

The message probably refers to No. 2 (Army Co-operation) Squadron which is the R.A.F. Unit allocated to the Shanghai Defence Force as distinct from the R.A.F., China, a force composed of units of the Fleet Air Arm, R.A.F.

The Training of Auxiliary Squadrons.

The annual training of the five squadrons of the Auxiliary Air Force began on July 16 and ended on August 21. The two London squadrons, No. 600 (City of London), Sq. Ldr. the Rt. Hon. F. E. Guest, P.C., C.B.E., D.S.O., M.P., and No. 601 (County of London), Sq. Ldr. the Lord Edward Grosvenor, went into training at Lympne Aerodrome from August 7 to August 21. No. 602 (City of Glasgow), Sq. Ldr. J. Fullerton, and No. 603 (City of Edinburgh), Sq. Ldr. J. McKelvie, A.F.C., Squadrons went into training at Leuchars Aerodrome from July 16 to July 20, and from July 23 to August 6. No. 605 (County of Warwick), Sq. Ldr. J. A. C. Wright, Squadron went into training at Manston Aerodrome from July 31 to August 11.

The two London squadrons flew in formation from their home aerodrome at Hendon to Lympne on August 7 in bad weather. Several pilots made forced landings, and one machine of No. 600 Squadron was damaged. Another machine was destroyed in landing at Lympne in the effort to avoid a collision. All the machines of No. 601 Squadron landed safely.

A spirit of rivalry between the two squadrons gave an added keenness to the training, and the result has been a very creditable state of efficiency all round.

Two pilots of No. 600 Squadron qualified for their wings under severe weather conditions. During the training 65 hours was flown solo on Avros and 80 hours on D.H.9a's by this squadron. Fourteen officers were in camp during the training and 31 out of 35 other ranks.

No. 601 Squadron, with 11 officers in camp and 47 other ranks, did over 200 hours flying during the fortnight, and one officer qualified for his wings.

Each squadron had four Avro-Lynx training machines to look after and six D.H.9a's. The aircraftmen are drawn from all trades and professions, and in No. 600 Squadron only four of the 35 other ranks belong to the mechanical trades. In spite of this the proficiency of these men in the care and maintenance of the machines in their charge is very high indeed.

The City of Edinburgh Squadron has twelve officers and 75 other ranks.

The City of Glasgow Squadron has seven officers and 99 other ranks.

The County of Warwick Squadron has eight officers and 89 other ranks.

No. 47 Bombing Squadron, R.F.C. and R.A.F.

No. 47 Squadron was originally formed as a Unit of the R.F.C. in April, 1916, at Beverley in Yorkshire, under Major F. G. Small. The Squadron was used for training purposes for five months, and in September, 1916, it embarked for Salonika under Major C. C. Wigram, who commanded it until the end of that year. The earliest equipment of the Squadron was Armstrong-Whitworths (Ack. Ws)with 90 h.p. Raf engines, Bristol Scouts and B.E.12s.

No. 47 Squadron took over the Doiran front from No. 17 Squadron, and began operations from Janes in the middle of October, 1916. A detached Flight went to Kukus and later moved up to Snevce, and took over from a Unit of the French Air Service.

In January, 1917, Major F. F. Minchin, D.S.O., M.C., took over the command of the Squadron, and during the following month the Squadron was re-equipped with D.H.2s and Ack Ws with 140 h.p. Raf engines.

Most of the Squadron's duties during this period were Artillery Co-operation. As there were no Fighter Squadrons to protect the Corps Squadron, "A" Flight was equipped with fighting machines to protect the other Flights.

The following incident concerning the Squadron is taken from F.S. Publication 136, *A Short History of the Royal Air Force* :—

Salonika: During the early part of the year 1917, the enemy brought a powerful bombing squadron from Bucharest, equipped with Halberstadt scouts, twin-engined A.E.G.s, Rumplers, and Friedrichs-

The *Brock-Schlee*

Atlantic Flight

was made on *ordinary*

SHELL

AVIATION PETROL

—*without mixture of any other fuel or* "dope" *of any kind*

SHELL

The Anti-Carbon Petrol

hafens and one Gotha. This squadron at once became very active in carrying out raids on British and French aerodromes, and on Feb. 27 a raid *en masse* was made on Salonika. All available British machines immediately took the air, and, in spite of their superiority in numbers, the raiders were dispersed, losing a Halberstadt scout. On their return journey they were intercepted by No. 47 Squadron from Janes, our machines each engaging three or four of the enemy. One officer on a B.E.12, who was already in the air when the raid took place, flew gallantly into the middle of the hostile formation of about 18 machines, and attacked four in succession. Unfortunately a Halberstadt, which he failed to see, shot through both his petrol tanks from above, causing his engine to stop, and compelling him to break off the engagement.

In June, 1917, several Vickers "Bullets" were added to the equipment of the Squadron, and in September and October of the same year, B.E.12as and B.E.2cs arrived. A little later they got a Bristol monoplane, and early in 1918 the equipment was reinforced with S.E.5as and Sopwith Camels.

At the beginning of April, 1918, the Flight at Kirec was joined up with a Flight from No. 17 Squadron, to form a new fighting Squadron, No. 150. During August, 1918, the Corps machines of No. 17 and 14 Squadrons dropped 9¾ tons of bombs, and carried out 145 registration and destructive "shoots" and exposed 2,908 photographic plates in addition to their ordinary reconnaissance work.

In March, 1917, Major G. D. Gardner, M.C., took over the command of the Squadron until he went into Hospital in July. Major F. A. Bates, M.C., commanded the Squadron from August, 1918, till January, 1919.

The Honours and Awards during the Macedonian Campaign included 1 D.S.O., 10 M.C.'s, 9 D.F.C.'s, 1 D.C.M., 3 M.S.M.'s and 33 mentions in despatches.

In October, 1918, part of No. 47 Squadron moved to an aerodrome at Demirbilji, near the railway line to Constantinople, and the rest of the Squadron returned to Salonika. In February, 1919, the whole Squadron was concentrated at Amberkoi and in April the Squadron was chosen to form part of the British support to General Denikin in his campaign against the Soviets in South Russia.

During these operations the Squadron was commanded by Major R. Collishaw (now Sq. Ldr. R. Collishaw, D.S.O., O.B.E., D.S.C., D.F.C., *p.s.a.*, R.A.F.). The equipment was D.H.9s and Sopwith Camels. In September, some D.H.9as arrived.

In October, 1919, the Unit in South Russia ceased to be known as No. 47 Squadron.

[A complete and extremely interesting account of the adventures and activities of No. 47 Squadron up to this point is contained in a book called "Over the Balkans and South Russia," by H. A. Jones, M.C.]

On Feb. 1, 1920, No. 206 Squadron, then in Egypt, became No. 47 Squadron, under the command of Sq. Ldr. G. R. M. Reid, D.S.O., M.C. It was stationed at Helwan, Egypt, and equipped with D.H.9as. In December, 1920, Sq. Ldr. K.C. Buss took over the command. From December, 1921, to March, 1922, it was commanded by Flt. Lt. R. C. Hardstaff. In March, 1922, Sq. Ldr. M. Henderson, D.S.O., took over the command, and in September, 1925, the Squadron came under the command of Sq. Ldr. R. S. Maxwell, M.C., D.F.C. The Squadron is still stationed at Helwan, and since 1926 has had a detached Flight at Khartum.

In March, April and May, 1927, a Flight of four Fairey III.Fs (450 h.p. Napier Lion engines) under the command of Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., flew from Helwan to the Cape and back and co-operated with the King's African Rifles and the South African Air Force.

Except the Officer Commanding and the Officer in charge of Navigation the Personnel of the Flight was drawn from No. 47 (Bombing) Squadron and included Sq. Ldr. R. S. Maxwell, M.C., D.F.C., Flt. Lt. S. D. Macdonald, D.F.C., Flg. Off. D. L. G. Bett, F-S. Evans and Johnson and one Leading Aircraftsman.

Group Captain W. F. McNeece Foster.

The King has granted Group Captain William Foster MacNeece, C.B.E., D.S.O., D.F.C., R.A.F., eldest son of Colonel T. F. MacNeece, of Castle Cary, Co. Donegal, licence and authority to take and use the surname of Foster.

THE JOURNAL OF THE I.Ae.E.

The August number of *The Journal of the Institution of Aeronautical Engineers*, which is now on sale (price 2s.), contains full reports of papers on "Heat Resisting and Non-Corrodible Steels," by Mr. S. A. Main, of the Hadfield Research Laboratories, and "The Application of Insecticides by Aeroplane," by Mr. Dudley Wright.

Mr. Main's paper deals in a very interesting way with a subject of great importance to aeronautical engineers. Steels which will maintain their qualities at high temperatures are exceedingly desirable as materials for valves and other parts of engines which may have to work at something approaching a red heat.

And steels which are really non-corrodible are obviously desirable for aircraft—particularly of the sea-going type.

Mr. Wright's paper on what the Americans call "bug-spraying," deals with the technical aspects of a type of commercial aviation which has so far been little developed in Britain. It has proved itself to be distinctly a paying proposition in the U.S.A., the Canadian Forestry Department have found it valuable in protecting timber from the ravages of certain insect pests, and there is undoubtedly a great future for this method of protecting crops in the British Empire against insects and other pests.

Copies of the Journal may be had from The Aeroplane price 2s 9d. post free.



ATHLETICS IN THE NEAR EAST.—No. 47 (Bombing) Squadron's Athletic Team, who, although they represent one of the smallest Units in the Middle East Command, tied with an Aboukir Depôt Squadron for the Inter-Unit Challenge Cup in Egypt with a total of 23 points.

Left to right (standing): L-AC. J. Jay, AC.1. A. Mortimer, AC.1. J. R. Gordon, L-AC. G. A. Lowndes, L-AC. E. W. C. White, L-AC. W. J. G. Brooker, L-AC. A. Darbyshire. (Seated): Flg. Off. F. S. Homersham, M.M., Flg. Off. J. S. L. Adams, Flt. Lt. T. C. Luke, M.C., S-M.2. R. W. Johnson.



WORLD'S RECORD LIST

JUNKERS

As at 25th JULY 1927

JUNKERS-FLUGZEUGWERK A:G.DESSAU

THE TIGER-MOTH RECORDS.

Two performances have been put up during the past week by the De Havilland Tiger-Moth, which will go far to impress foreign nations with the quality of British aircraft. The De Havilland Aircraft Co. deserve the thanks of all concerned with and for British Aviation for their enterprise in building this machine without any immediate prospect of a return for the money spent other than the credit of bringing back to this country some of the prestige which we have lost so badly during the past few years. Every other firm in the Aircraft Industry owes a debt of gratitude to the De Havilland Aircraft Company for their enterprise.

On Wednesday, August 24, Mr. H. S. Broad put up a light aeroplane record on the Tiger-Moth over a course of 100 kms., his time being 19 mins. 59.6 secs. His official speed was 300.1 km. per hour, which is equal to 186.47 miles per hour. These figures will be submitted to the *Fédération Aéronautique Internationale* for acceptance as a World's Record for light aeroplanes.

There is no light aeroplane speed record recognised by the F.A.I. for three runs over a 3 km. course, according to the method of measuring the absolute speed records for aeroplanes irrespective of size. The only recognised speed record for light aeroplanes is the 100 km. record, from which the speed per hour has to be calculated. One suggests to the De Havilland Aircraft Co. and to the Royal Aero Club that it would be quite worth while to put the Tiger-Moth over the orthodox 3 km. run to find out what her ultimate speed really is,—and homologate it as a British Record.

Even so skilful a pilot as Mr. Broad is bound to deviate slightly from his course on a 30 mile (50 km.) straight run, and he must lose a second or two on the turn, as against a straight 3 km. with a flying start. Making allowance for such losses, the speed of the Tiger-Moth must be well over 190 m.p.hr. in her present state, and she might be faked to do 200 m.p.hr.

The day on which Mr Broad went for the record was unusually bad. There had been a heavy thunderstorm between 19.00 hrs. and 19.30 hrs., and he just slipped in the record run between storms. The course over which he flew was from Stag Lane to Twyford and back, and he said that he had a few bad bumps over Slough. Otherwise the air was smooth. But there must necessarily have been some variations in the quality of the air which would knock something off his speed.

The second performance by the Tiger-Moth was put up on Monday, August 29. It can be claimed as a height record for light aeroplanes, but it is obviously a long way from being the Tiger-Moth's limit.

Mr. Broad went for height, although the Tiger-Moth is supposed to be a speed machine and not a climber. He took the machine up to 20,000 feet in 17 minutes. Not having any oxygen apparatus with him he stopped at that height and came down again. But, when he stopped, the machine was still climbing at the rate of 1,000 feet per minute, so obviously the ceiling of the machine must be getting on towards 30,000 feet, if not more.

The engine used was the new De Havilland engine designed by Major F. B. Halford, which, according to R.A.C. rating, is 32 h.p., and is calculated to give 130 h.p. at the revolutions per minute at which it is used in the Tiger-Moth. With the compression raised still further, and used solely for speeds bursts over the 3 km. course or for a height-record performance, the engine is obviously capable of giving more power than it has been asked to give so far.

This engine is in its general aspect similar to the Cirrus, which was also designed by Major Halford. But everything has been cleaned up, especially about the crankcase, to make it fit into a perfectly stream-lined fuselage.

There is a legend that the engine and the fuselage were designed by the simple process of sitting Mr. Broad on the floor of the office with his back against the wall, drawing a chalk outline of him on the wall, and then designing the front view of the fuselage and the engine to fit Mr. Broad's outline.

This is something like the way in which the famous Curtiss Racers, to which we in this country owe so much, were designed in 1923. A small model was made of the D.12 engine, a model of a pilot was made to scale and placed behind the engine, and then the whole lot was moulded round with plasticine and tested over and over again in the Curtiss wind-tunnel until the fuselage shape which gave the least head resistance was evolved. When that was achieved the model was taken into the drawing office and the design staff were ordered under pain of sudden and uncomfortable death to make a complete aeroplane with a D.12 engine to those lines. The immediate result was a speed of somewhere in the region of 250 miles per hour.

And as the result of those experiments a good many people began to have quite new notions on the subject of streamlining. By way of the Fairey Fox and Firefly we have now arrived at the Supermarine S.5 and the Tiger-Moth. But the majority of our aeroplane designers still have to learn the one simple secret of fuselage design which gives high performance.

In the meantime the De Havilland Co. progresses from triumph to triumph, and is doing more than anybody in this country to impress on buyers over-seas the real merits of British aircraft.

AN INVASION OF AFRICA.

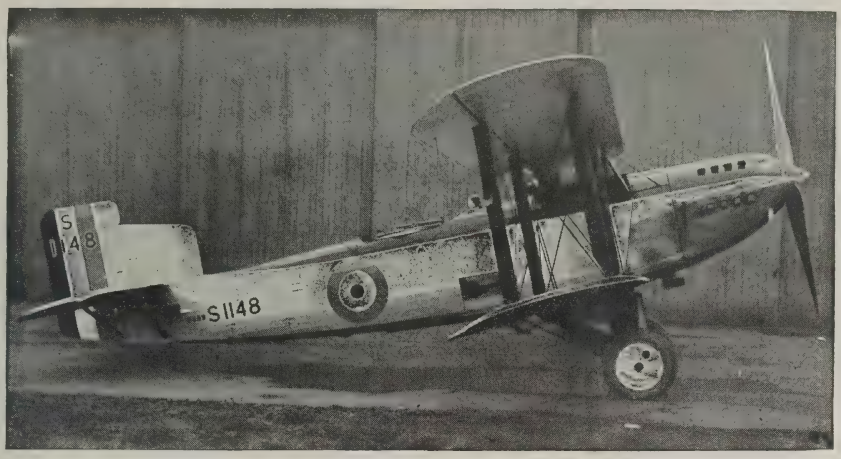
Lt.-Col. G. L. P. Henderson has come to the conclusion that it is a waste of time and money to keep a joy-ride organisation in England during the winter and that the right thing to do is to remove it to where Winter becomes Summer,—or at any rate to where the Winters are no worse than our Summers. Accordingly he proposes to send an expedition to South Africa in the near future.

This seems an eminently sound scheme. Apparently at least some considerable proportion of the populace of that Dominion are in a state to take an interest in flying, and Col. Henderson's venture should prove both profitable to him and helpful to South African progress towards air-mindedness.

One hopes that the Minister of Railways, under whose jurisdiction Col. Henderson's activities will fall, will not object to this all-British invasion.



THE RECORD-BREAKERS.—Mr. Hubert Broad and the De Havilland Tiger-Moth.



Fairey III F. Napier Lion—Cellon Dope.

It is a noteworthy fact that the Fairey Aviation Company chose Cellon Dope for use on the R.A.F. Aircraft which completed the 1927 Cairo-Cape-Cairo Flight.

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THE " PRIDE OF DETROIT " AT CROYDON.

Mr. Brock and Mr. Schlee flying the Stinson-Detroiter monoplane which won the Ford tour arrived at Croydon Aerodrome at 10.33 hrs. on Sunday, Aug. 28, having flown across the Atlantic from Harbour Grace, Newfoundland.

Things are coming to a pretty pass (as Mr. George Robey says) when people who fly across the Atlantic not only arrive whenever they start (the English version of whenever and not the Scottish), but arrive before they are due. Having heard that they were likely to be over England about midday and liking to be there always in plenty of time one made Croydon at 10.50 hrs. thinking that one would be able to have lunch about 13.00 hrs. and stroll comfortably to the aerodrome and spend the afternoon watching for them.

On inquiring of Mr. Chattaway if there was any news of them, he said they had arrived about a quarter of an hour before and had gone up to Town.

The machine was placed in the second half of the Southernmost of the new sheds and looked absurdly small under the wing of the Vickers Vanguard.

The astonishing thing about it was that it was, except for some Newfoundland mud on the tailplane and some Harbour Grace names and addresses scribbled on the rudder, spotlessly clean. Mr. Hope, who was sitting in the pilot's seat, which is on the saloon principle, was very indignant because the view was so bad. Someone remarked that as there were three compasses no wonder they got across.

The petrol tank was in the saloon and there were also a number of tins of Shell petrol from which the passenger could refuel the tanks in the air. The welded steel tubing of which the machine was built looked very roughly finished off but was no doubt serviceable, and the general opinion was that that was how to build aeroplanes cheaply. The forward fixing of the fin to the fuselage seemed to be very fragile.

Incidentally the flight was done on straight undoped or unbenzoled Shell petrol, and one gathers that the same spirit will be used for the remainder of the flight.

The machine is painted bright yellow with a number of advertisements of a kind on the side. In huge letters on each side of the fuselage is written " Pride of Detroit "; the type name " Stinson Detroiter " is written aft, and a Shell " shell " sign is forward together with the name of the lubricating oil supplier, whose name one has forgotten.

What is presumably the coat of arms of the City of Detroit but what looks like what one remembers of a golden sovereign appears by the cabin. And right forward by the airscrew is the statement that the machine is the winner of the National Air Tour.

The airscrew is singularly like those produced here by Metal Propellers Ltd.

The Pride of Detroit left Croydon on Monday morning at 09.35 hrs. for Munich.

On Sunday after the machine had arrived there was a considerable stream of people rolling up hoping to see it arriving. None of them seemed to know that the machine had arrived, and if the pilot had delayed his arrival until midday he would have had a very big crowd to greet him, with plenty of police to keep the crowd in order.—G. D.

Messrs. Schlee and Brock flew without any attempt at serious navigation and their only map of England was a small one torn from a school geography book. They followed a compass course (apparently given them by somebody in the States who knows something of navigation) and thereafter relied on the veracity of their Pioneer Earth Inductor Compass—which now seems as much a standard fitting on all successful American aircraft as is a Wright Whirlwind engine.

When they reached England they had no idea whether they were in Ireland, England or France, so they flew round and round for an hour or more low down over the coast of South



ARRIVED.—Mr. Schlee (left, in Lido trousering) and Mr. Brock, at Croydon.

Devon, and by dropping a note tried to get the indigenes to indicate their whereabouts. Such legends as " B. Salterton " and " Seaton " left them cold and guessing, even when chalked on a black side-walk by an intelligent child,—neither place being made famous in American geography. Ultimately, convinced presumably by the lethargy of the inhabitants, they decided that they were in England, and flew East along the Coast till some instinct led them to London.

When they arrived at Croydon they found that the Wright Whirlwind had used 2 gals. (*two* gallons) of oil in flying from Newfoundland—British engine-designers please note—and about half her load of petrol.

It was a good show for all concerned. Good luck to the rest of their journey.—C. G. G.

WHAT NEXT?

An international prize of $100 has been offered in New York for the best hymn for aviators. Whether it is to be in the form of a thanksgiving, or to be for the departed, is not stated.

What is wanted is a fund for the establishment of a Society for the Protection of Pilots and for the Prevention of Cruelty to Aviators with suitably padded club quarters and accommodation for the incarceration of all those who may succumb to the effects of the over-exuberance of mentally-defective Modocks.—L. B.



THE LATEST TRANS-ATLANTIC AIRCRAFT.—The Stinson Detroiter (Wright Whirlwind, as usual) at Croydon.

ADVICE TO YOUNG MOTHERS.

Recent developments of the type of aeroplane suitable for the use of the private owner have created a large amount of interest in the subject of using an aeroplane as a method of getting about the World generally, and there are to-day many people who look forward hopefully to the time when they themselves may be able to own a small aeroplane and use it much as to-day they use a car.

What troubles most would-be aircraft owners is the problem of cost. How much is it going to cost not merely to acquire their aeroplane, for that is easily ascertainable, but what is it going to lead to in the way of running expenses?

This is a very difficult question to answer. It is quite impossible to give any very definite answer to the same question asked about a car—even if a well-known type of car be specified, and an approximate mileage per annum be stipulated—for some fortunate individuals can run a car very cheaply when others in the same apparent conditions find it painfully costly.

It is possible—if one makes sufficient assumptions—to estimate costs for either the running of a car or an aeroplane, and in an article in the June-July number of *The De Havilland Gazette* Mr. W. E. Nixon, the secretary of the De Havilland Aircraft Co., has synthesised the cost to an apocryphal Mr. Mothews of using a D.H. Moth for a year, in which period he does 250 hours' flying and covers 21,250 miles.

The total cost—according to this synthesis—is £288 14s., or 3.26d. per mile flown, a figure which, as the author justly states, bears comparison with the cost of running a car.

This total is made up of the following items:—

Fuel and oil.—Petrol (any No. 1 brand) at the rate of 4½ gallons per hour (four gallons per hour's flying plus ½ gallon per hour for waste and loss) at 1s. 2½d. per gallon, total 1,125 gallons, £68. Oil 1½ pints per hour's flying (including again an allowance for wastage), 47 gallons at 5s., £11 5s. Total, fuel and oil, £79 5s. p.a.

Maintenance.—£5 is allowed for the cost of spare parts, and £3 15s. for ten fees of 7s. 6d. a piece to a ground engineer for giving the machine a look-over and making necessary adjustments. One top overhaul of the engine every 150 hours—costing £5 a time, and the proportionate part of one complete engine overhaul every 450 hours (£11), together with an allowance of £20 for the compulsory yearly overhaul and new Certificate of Airworthiness (C. of A.) make a total of £44 15s. p.a. for maintenance.

Housing and landing.—It is assumed that Mr. Mothews lives in the neighbourhood of London, and will use one of the lock-up sheds provided by the D.H. company for Moths at an inclusive cost of £1 per week (£52 per annum)—a sum which also includes periodic washing and cleaning, help in getting the machine in and out and use of the aerodrome.

Mr. Mothews is assumed to spend 10 nights with his Moth housed at a licensed aerodrome where he will be charged 2s. 6d. per night for housing, and make ten landings on aerodromes where he will be charged 2s. 6d. landing fee on each occasion. Total £59 10s.

Incidental expenses.—Under this heading is charged 5s. for Mr. Mothews' pilot's licence, £1 1s. for the cost of the necessary medical examination, £6 6s. subscription to the Royal Aero Club, £3 3s. for two "triptyques" allowing to visit foreign countries by air, a total of £9 15s.

Insurance.—This is put at £100 for the year in this particular case, with an expression of the hope that premiums will fall in the future as the number of Mr. Mothewses increases.

Assuming as one is justified in assuming that this statement of the probable cost of running a Moth is fairly close to the truth for a reasonably good and careful private owner, it is obvious that a private Moth should be very good value indeed to the man who has to travel 20,000 miles per annum for business purposes, or to anyone who can afford an expenditure of round about £300 p.a. on travelling.

On the other hand, £300 is very considerably more than the annual sum that must be expended on the running of a car nowadays. It is not a high price to pay for 20,000 miles of travel, and many would-be private owners of Moths and the like will desire to know how the annual cost will fall if they are satisfied with a smaller annual mileage.

Inevitably the cost per mile rises as the annual mileage falls, for certain of the expenses are fixed. The cost of a permanent shed will not fall, neither will licence and C. of A. fees. Insurance premiums will fall at a less rate than mileage, but fuel, oil and maintenance costs should be directly proportionate to mileage.

The article in question gives a second estimate for 141 hours' flying, and a mileage of 12,000 miles, amounting to approximately £205 p.a., or 4.1d. per mile.

It is possible to put these results into more general terms, and to say that on the scale of expenditure allowed by Mr. Nixon it will cost Mr. Mothews £95 a year to own his Moth, and 2.2 pence per mile, or 15/7 per hour to fly it.

Taking these figures, the Moth is shown to be an exceedingly cheap form of transport on the basis of cost per mile, and for the man who has to travel many thousands of miles per annum on business the saving in time which is made possible by air travel makes it even more attractive than the mere figures of cost would indicate.

On the other hand, to anyone who feels that he would like to fly about mainly for pleasure, at week-ends and the like, and who is not largely blessed with spare cash, these costs may have a very different appearance.

The fixed charge of £95 p.a. before he has paid for any flying at all looks rather steep. But it should be noted that £52 of this is the cost of housing the machine at a London aerodrome, and that there are obvious possibilities—in many cases—of avoiding this cost. The country resident may have suitable out-house accommodation and live next to a suitable landing field, in which case the fixed charge falls to less than half the original value.

But, if one is proposing to use an aeroplane mainly as a pleasant and amusing method of travelling it is not the low cost per mile covered that counts—it is the cost per hour.

If the Moth owner wishes to run down to a specific place for the week end, well and good—his cost per mile will be at least as low as they would be if he travelled by car. But if he wishes merely to spend a fine week-end wandering round the country and alighting at attractive spots for lunch, tea, or other refreshments, his Moth will drive him either to cover four times the distance he could have covered in a car, or else what would have been a week-end trip in the car will barely fill up Saturday afternoon.

From which consideration it may be seen that at present the privately-owned light aeroplane can confidently be recommended as an economical business vehicle to those who have to cover large distances regularly, or as a pleasure vehicle to those who can afford at least £200-£300 p.a. in the form of running expenses over and above the initial cost of their machine.

It is not an expensive alternative to the motor-car, for anybody whose idea of motoring for pleasure consists in



PRODUCTION.—A collection of 26 D.H. Moths (Cirrus engines) lined up at Stag Lane Aerodrome. It includes the machines of the London Aeroplane Club, the de Havilland Flying School, Air Taxis Ltd., and sundry private owners, all of which happened to be at, or passing through, Stag Lane on the day the photograph was taken.

getting from London, say, to Brighton on Sunday morning in the least possible time, and who will be content to use his aeroplane to take him to Brighton and no further.

But if he is not content with Brighton, and spends the same time in his aeroplane as he would have done in reaching Brighton by car, he will find that he travel much further, and that it will cost him more, both directly and indirectly.

At present the aeroplane is not a possible alternative to the car for the man who wishes to spend a fine week-end "pottering" round the countryside, and who has to do his "pottering" on the minimum of expenditure, because the cost per hour of the aeroplane is far higher than that of a car.

There can be little doubt that the costs of private flying will fall very markedly in the near future. The first costs of aeroplanes suitable for the private owner are in process of falling, and the rate of fall will probably increase in the next year or two.

With the cost of the machine itself the cost of maintenance will fall, and insurance should fall, both with reduced price of machines and with increasing numbers in use.

The price of housing in the vicinity of large towns may also be expected to drop—but will always be a somewhat serious cost. For those who dwell in the country, and to whom the private aeroplane has possibly most to offer, the housing problem should present no difficulty.

And it is quite on the cards that in the relatively near future it will be possible to produce the private light aeroplane that will "potter" at say 40 m.p.h. on a fine week-end for a very low cost per hour in fuel and oil, but will cruise at 100 on Sunday evening to take its owner back to town.—

W. H. S.

THE WEEK-END MOTH.

There is hardly any need to expatiate on the usefulness of the Moth as a means of "getting off those crowded roads" at the weekend, but one may very well be excused for giving further proofs of its economy as a touring vehicle.

During the weekend of Aug. 6-8 Mr. Norman Hulbert, who was trained *ab initio* at the London Aeroplane Club and has of late had little opportunity for practice, hired a Moth from the de Havilland Company and flew down to Shaftesbury and landed on the lawn of the Duke of Hamilton's place, Ferne House. Which arrival, owing to the fact that Dorset is not particularly airminded as yet, caused a sensation.

After doing a good deal of flying during the week-end, Mr. Hulbert found that the Moth used about four gallons of fuel for every hundred miles. The car which will tour at 80 miles an hour on a consumption of 25 miles to the gallon has yet to be built.

A SAD END.

Poor old G-EMBO, the King's Cup winner of last year, has come to a sticky end somewhere up in Assam.

The machine was flown from London to Delhi by Mr. Neville Stack. After that Mr. Bernard Leete flew it all round North-Western India and the Punjab. Thereafter a Company was formed for advertising purposes, which took the machine over, and in the absence of Mr. Leete in England the machine has been flown by Flg. Off. (honorary Flt. Lt.) W. H. Vetch.

Mr. Vetch flew it to Karachi, where it was overhauled. Thence he flew it to Lahore, to Delhi and Calcutta. Mr. Vetch took Sir Charles Teggart, the Commissioner of Police, from Calcutta to Ranchi and back in the machine, and while at Ranchi flights were given to His Excellency the Governor of Bihar and members of his family.

Another flight was from Calcutta to Dacca and Naravanganj. On this flight his passenger took a letter from the Manager of a firm to the office at Naravanganj and brought the answer back in less than twelve hours whereas by ordinary post the answer could not have been received in less than three days.

Somewhere about July 17 Mr. Vetch attempted to fly up to Shillong, the capital of Assam, with a Mr. Chamney as passenger. Mr. Vetch shed Mr. Chamney on the way, finding that he could not get over the Cherra Hills with a passenger.

He himself arrived at Shillong and crashed later on, as related in *The International Times*—evidently a native news-sheet—which describes itself as "The only paper in the capital of Assam commanding largest circulation and most widely read throughout India." This heart-rending story reads as follows:—

"Misfortune awaited the Aeroplane which after a hazardous attempt arrived in Shillong crossing the severe weather of Cherra during the rains. Mr. Chamney who was accompanying the airman from Calcutta up to Cherra was forbidden by the latter to proceed to Shillong by the plane.

"In their first attempt to cross the Cherra they experienced a terrible storm and the plane had to revert the direction and lay at Bholaganj. Mr. Chamney came back to Shillong by Motor but the airman waited a favourable chance to cross Cherra. The opportunity at last arrived and in the midst of thickening clouds at the risk of his life he landed the plane only a few days ago in Shillong.

"Twice the people crowded in thousands in anticipation of the plane arriving for the first time in Shillong but they were disappointed.

"At Calcutta the plane was detained due to heavy down-pour. During the second attempt it was impossible for the plane to cross Cherra.

"It was at the third attempt only the plane arrived though unexpected on the 18th.

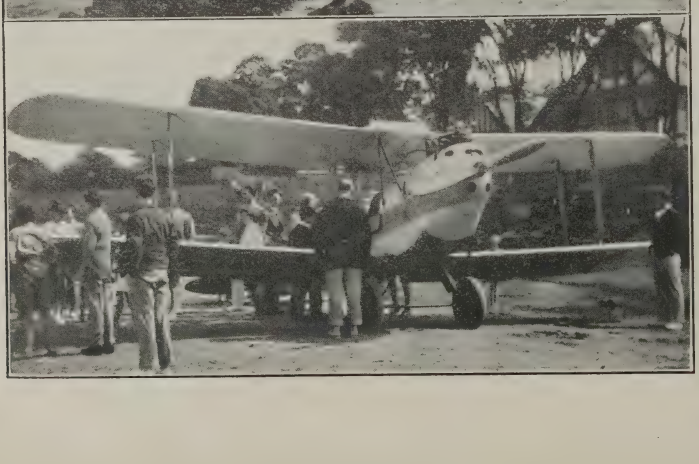
"The airman was the recipient of joyous greetings from the people of Shillong.

"The Governor himself proposed to deliver a purse to the daring airman.

"A trial flight was arranged on Friday, and a mamouth gathering assembled at the spot. The airman joyfully rode the plane and he proposed to make a display of aeroflight for a time as a token of gratitude to people's welcome. But misfortune befell him. After a round of the Pologround the plane suddenly was entangled in electric wires and crashed.

"The plane fell down wounding four men seriously. Inspite of the bad wound he received, the airman's first concern was to pull out those persons who fell below the plane. He was in tears. His plane was crashed and the men injured. The airman and the injured were immediately taken to Hospital."





THE UBIQUITOUS MOTH.—The accompanying pictures show the astonishing handiness of the modern light aeroplane when used as an ordinary vehicle of transport. The photographs were taken at Sea View, Isle of Wight, where Mr. A. J. A. Wallace Barr of Cellon Ltd. has been spending his Summer holidays, as usual.

Senor Don Juan de la Cierva, who lives near Southampton and has been superintending the construction of sundry experimental Autogiros at the Avro Hamble Works, has, as readers of the Flying Club Notes know, been a regular flying member of the Hampshire Aeroplane Club for several months, and has developed into a pilot of considerable skill with an ordinary non-gyrating aerofoil.

One day recently, wishing to pay a friendly call on Mr. Wallace Barr, he flew one of the Hampshire Club's Moths to Sea View and landed on the beach at low tide. The machine was then folded and hauled up the old stone slipway used by the local boating men, and parked in the road outside Mr. Wallace Barr's eligible villa. When the tide had gone down again the machine was wheeled back to the beach and Don Juan flew back to Hamble.

THE AVIAN DISTANCE RECORD.

An extraordinarily fine performance for a light aeroplane was put up by an Avro Avian piloted by Mr. Bert Hinkler on Saturday last, Aug. 27. Starting from Croydon Aerodrome at 05.30 hours, he flew non-stop to Riga in Latvia, a distance of 1,200 miles, and arrived at 16.12 hours.

This is a very fine performance indeed, but it does not by any means represent the ultimate limit of the Avian with a Cirrus engine. Mr. Hinkler did not start out to make a record. He was merely going to Riga anyhow to test some machines which had been built by Wm. Beardmore and Co Ltd. to Mr. Shackleton's designs for the Latvian Military Aviation Service, and as Riga is an awkward place to reach by rail or sea, Mr. Hinkler decided to fly the distance.

His Cirrus engine used 40 gallons of petrol, or about 30 miles to the gallon at a speed of over 100 miles per hour.

For the benefit of the many thousands of new-comers to aviation, one may remind the World at large that Mr. Hinkler first made his name, after leaving the Royal Air Force, as a long-distance pilot. He sprang suddenly into fame by flying, in May, 1920, non-stop from London to Turin, a distance of 900 miles, on a Baby Avro with a 40 h.p. Green engine. A year or so later he took another Baby Avro to Australia and flew 800 miles non-stop from Sydney to his home in Bunderberg, landing in the main street of the town and taxying up to his father's front door.

Most of the members of the Flying Clubs in these days have probably never heard of the Baby Avro, but it was, in fact, quite one of the prettiest and best aeroplanes ever designed. Unfortunately it was about five years in front of its time.

PROOF POSITIVE.

The former owner of Avro 548 (80 h.p. Renault) which was advertised for sale on Aug. 17, writing to notify the fact that the machine has been sold, says :—

A point which will be of interest to you in connection with it is that out of nine inquiries as a result of our advertisement in two technical papers, eight came from readers of The Aeroplane. Not too bad.

TOWARDS SOUTH AFRICA.

Mr. F. J. Bailey, who is at present Imperial Airways pilot on the Southampton—Channel Islands seaplane service, has been granted six months' leave of absence by Imperial Airways as from Sept. 1, so that he may act for that period as the pilot of the Khartum—Kisumu air service.

The *Pelican*, the Jupiter-engined D.H.50 seaplane, which was wrecked by striking submerged wreckage on the Nile on its first attempt to leave Khartum for Kisumu, has now been repaired at the Greek Naval Aircraft Works, run by the Blackburn Co. at Phaleron, near Athens, and Mr. Bailey will leave for Khartum at an early date.

No official information is available as to when operations on this line will be resumed, but the reopening will certainly occur within the next few weeks. When this line is in regular operation it will form the first link in the Imperial air route to South Africa.

HEAVEN-SCRIBING ON THE CONTINENT.

Major Jack Savage's Skywriting company, through its German offshoot, *Die Deutsche Himmelschrift Gesellschaft m.b.H.*, seem to be doing very well in Germany. Operating units are now distributed all over North Western Europe.

There is one at Basel to cover the whole of Switzerland; one at Frankfurt am Main for Bavaria; one at Cologne for the Ruhr area, and one at Leipzig for the Leipzig, Dresden and Silesian area. Headquarters at Berlin themselves cover the rest of Germany East from the Ruhr to Danzig and as far North as Hamburg. Another detachment at Copenhagen covers Norway, Sweden and Denmark. One gathers that the preliminary work of the pilots has been considerably hampered by bad weather, for it so happens that England has not been alone in its rain-fall and storm rate this year.

THE NATIONAL FUND'S NEW TRUSTEE.

The Right Hon. the Lord Apsley, D.S.O., M.C., M.P., the Conservative Member for Southampton, has become a trustee for the National Fund for the Promotion of Aeronautics in addition to the Lord Ossulston, Squadron Leader the Right Hon. F. E. Guest and Mr. Soanes Lendrum.

LONDON TO TEHERAN BY AIR.

According to the Teheran correspondent of The Times, the Junkers representatives in Teheran are offering to book passengers from that place to London at a fare of £50. The journey will be made entirely by air, and would take five days.

The route would be from Teheran to Baku by Junkers machines, thence to Moscow by the Deruluft service, and from Moscow to London by the Luft Hansa service.

The Junkers firm are actually operating services between Teheran and Russia and between Teheran and the frontiers of Iraq, so that apparently no new service is required to provide for the through journey.

L'AFFAIRE LEVINE—DROUHIN.

(*Continued.*)

[Synopsis :—*Miss Columbia*, an airplane used by Messrs. Chamberlin and Levine in a flight from New York to Eisleben, Germany. After arrival in Europe Chamberlin and Levine part. Mr. Levine engages M. Drouhin as pilot. Much argument over money. Writs oscillate between two parties. M. Drouhin seals aeroplane so that it cannot fly without him. Mr. Levine seals shed so that nobody can fly it. Peace is reported. Report unfounded. Rumour that French are holding up American machine until French machine starts. Lots of ugly and humorous situations.]

On Aug. 29, Mr. Levine, having replaced sundry magneto parts which he had removed to prevent M. Drouhin from flying the machine, managed to get the French mechanics to wheel *Miss Columbia* out onto the aerodrome with the excuse that he wanted to test the engine. Offering the excuse that he had left his hat and coat in his taxi, he despatched his mechanic to fetch them and while they were away he managed to get his chocks away from his wheels and started taxying about the aerodrome.

Suddenly to the astonishment of everybody he opened his throttle and took off on his first solo. He circled the aerodrome once and set off for London. A French military machine set off in pursuit and a Farman Goliath was placed at the disposal of M. Drouhin but later he was restrained from joining in the pursuit, presumably by the Goliath's lack of speed.

Mr. Levine's arrival in the vicinity of Croydon was greeted with feverish activity on the part of the fire brigade and ambulance staffs. He arrived from a direction which was opposite to that from which he was expected and then proceeded to give the most heart-rending exhibition of how not to do things that has ever been seen at Croydon.

He made four efforts to land but forgot, or was in ignorance of, his tail-adjusting gear. He made stalled climbing turns, mastodonic bumps and leaps, and imperilled the aerodrome buildings and nervous systems of the spectators.

Finally led in by Mr. Smith of the Surrey Flying Services he succeeded in making several gradually diminishing contacts with the ground, and came to rest without causing any material damage to the machine or aerodrome.

He reported that he saw no immediate prospect of ever starting from Paris, as although British and American weather reports were good the French weather bureau reports were always unfavourable, so that he decided spontaneously to get over to England

M. Drouhin will receive all the money that is due to him in his contract but their relationship was incompatible.

On arrival at Croydon the machine was placed in a shed under a police guard and Mr. Levine left, after answering certain official inquiries, for a shave.—L. B.

(*To be continued.*)

LONDONT—LONDENG.

On Aug. 29 Mr. T. B. Tully and Mr. J. V. Metcalf left London, Ont., on their Stinson monoplane, in an attempt to fly to London, Eng. After being in the air for five hours they returned to London, Ont., as they found the weather conditions on the northern shore of Lake Ontario generally unfavourable.

THE AMALGAMATION QUESTION.

Members of the Institution of Aeronautical Engineers are reminded that a special meeting will be held on Friday next, Sept. 2, in the Lecture Room of the Junior Institution of Engineers at 6.30 p.m., to settle the question of the proposed amalgamation with the Royal Aeronautical Society.

The Council of the Institution have unanimously recommended that the revised terms of amalgamation proposed by the Royal Aeronautical Society be accepted. These terms differ from those originally submitted to, and accepted by, the Institution only in regard to the grading of members of the Institution of Aeronautical Engineers within the amalgamated body.

Under the original scheme Members of the Institution were to have the option of describing themselves as either Fellows of the Royal Aeronautical Society or retaining their original description.

This provision met with some criticism from Fellows and Associate Fellows R.Ae.S., and the Council of that Society therefore refused to agree to it. They have instead proposed that all members of all grades in the Institution shall retain their present description, but may apply for a transference to any appropriate grade in the Royal Aeronautical Society. All such applications will be scrutinised by a special Committee who will grant them subject to the applicant possessing the requisite qualifications.

If anything the new proposals are rather more to the advantage of the Institution than were the old ones. They secure that the identity of the Institution shall be preserved, and distinguish between the aeronautical expert who may not be an engineer, and the aeronautical engineer proper, which is as it should be.—W. H. S.

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Aug. 28.

Flying time 42 hr. 45 min. *Instruction* 25 hr. 5 min. *Soloists* 13 hr. 30 min. *Passengers* 4 hr. 10 min. *Instruction with Mr. F. G. M. Sparks.*—J. H. Vesey, Miss Fletcher, L. Mackie, E. C. Broderick, T. C. Elford, A. S. Richardson, Dr. Cook, G. C. Bonner, G. Black, R. Malcolm, G. W. Hall, J. H. Percy. *With Mr. S. L. F. St. Barbe.*—W. L. M. O'Connor, G. W. Hall, P. W. Hoare, R. G. Whalley, Lord Carlow, P. W. R. Whitehead, J. H. Percy, L. W. Gibbens, Miss Wilson, Miss Fletcher, E. K. Broderick, B. B. Tucker, T. E. R. Richards *Soloists.*—O. J. Tapper, G. C. Bonner, E. Fresson, A. F. Wallace, C. E. Murrell, Major H. Petre, B. B. Tucker, E. S. Brough, G. Terrell, R. Malcolm, S. O. Bradshaw, R. C. Presland, L. J. C. Mitchell, Major K. M. Beaumont, C. H. Swan, W. Hay, K. V. Wright, G. H. Craig, W. L. Bramson. *Passengers.*—*With Mr. S. L. F. St. Barbe,* Miss Morris; *with Mr. O. J. Tapper,* P. W. Hoare, H. J. McClure; *with Mr. F. G. M. Sparks,* G. H. Black, Miss Taylor; *with Major K. M. Beaumont,* Miss Taylor, S. Nesbit, A. Fowler, F. C. Fisher.

Aviators' Certificates.—On Wednesday, Aug. 21, Mr. G. C. Bonner passed the tests.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Aug. 27.

Flying time 47 hr. 15 min. *Instruction* 12 hr. 10 min. *Soloists* 23 hr. 40 min. *Passengers* 9 hr. 25 min. *Tests* 2 hr. *Instr. with Mr. Brown.*—Messrs. Hollindrake, Browning, Fisher, Riley, Hartley, Fallon, Allot, Parker, Lacayo, Brooking, Tweedale, Harper, Scholfield, Pattrieoux, Miss Baerlein. *Soloists.*—Messrs. Lacayo, Michelson, Kowley, Nelson, Harber, Costa, Chapman, Goodfellow, Twemlow, Hollindrake, Fisher, Shiers, Meads, Dobson, Miss Baerlein. *Passengers with Messrs. Brown, Cantrill, Scholes, Goodfellow, Lacayo, Leeming, Costa, Twemlow and Williams.*—Mrs. Horsefield, Mrs. Goodfellow and Mrs. Besso; the Misses Emmett, Turner, Dyson, Dimmock, Wilshaw and Thomas; Messrs. Wycherley, Hartley, Patchett, Horsefield, Howard, Beenkin, F. Scholes, Taylor, Fryer, Emmett, Jordan, Mario, Cooper, Mills, Murrell, Hollindrake, Eastwood, Brooking, Bibby, Harber, Meads and Beavin.

Only two machines were in service during the week, Avian RR and Moth MQ. Despite very unsettled weather both machines were kept hard at work.

Messrs. Hollindrake and Fisher did creditable first solos, and Mr. Harber completed the tests for his R.Ae.C. certificate. The two first soloists celebrated their success by putting in five and three hours solo respectively during the week and proved very conclusively that Mr. Brown does not turn out "fair-weather" pilots.

The Newcastle-upon-Tyne Aero Club.

[Sec.: Alex. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Aug. 23.

Flying time 16 hr. *Instruction* 4 hr. 55 min. *Soloists* 11 hr. 5 min. *Instruction (with Mr. Parkinson).*—Messrs. Sadler, P. L. Lawson, Wardill, L. Middleton, Maxwell, De Pledge. *Soloists (under instruction).*—Mrs. Heslop, Messrs. Wardill and Maxwell. *("A" Pilots).*—Miss Leathart, Messrs. Heppell, Stawart, Turnbull, C. Thompson, W. Baxter Ellis, Dr. Dixon, Messrs. A. Bell, Mathews. *Passengers.*—*(With Miss Leathart)*—Miss Slade. *(With Mr. W. B. Ellis)*—Mrs. Ellis. *(With Mr. Turnbull)*—*Miss Klyver.* *(With Mr. C. Thompson)*—Mrs. Heslop, Mr. Bulmer. *(With Mr. Mathews)*—Mr. Percy. *(With Mr. A. Bell)*—Miss Colman, Mr. J. Bell.

Torrential rain, complete with thunder on most days except Friday and Saturday when gales were experienced. Thursday was fairly good and Sunday after about 2 p.m.

Only one machine was on service during the week, LX being still in the hands of De Havillands' mechanics.

On Wednesday a strange Moth "popped in." This proved to be that owned by the Marquess of Clydesdale, who had taken delivery on the previous day. His passenger was Flg. Off. Hayward Booth. This "X" Moth is a very pretty job, the pale blue and silver decoration of the fuselage, etc., is very effective.

Mr. T. E. M. Wardill carried out the tests for Licence "A" on Thursday, putting up a very good performance. This is the seventh licence during August.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Aug. 27

Flying time 10 hr. 25 min. *Instruction with Mr. W. J. McDonough.*—N. Crane, G. L. Brinton, J. E. Brewin, G. Robson, R. L. Brinton, R. Cazalet, R. D. Bednell. *Soloists.*—R. Cazalet, R. L. Jackson. *Passengers.*—*(With Mr. W. J. McDonough)*—S. Browne. *(With Mr. E. J. Brighton)*—L. F. Gundle, J. H. Moore.

Bad weather and only one machine have again restricted flying.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Aug. 28.

Flying time 26 hr. 35 min. *Instruction* 12 hr. *Solo* 11 hr. 25 min. *Passengers* 1 hr. 50 min. *Tests* 1 hr. 20 min.

Instruction with Mr. Thomson.—Miss Home 1 hr. 25 min., Lt.-Cdr. Woodhouse 45 min., Cdr. Hunt 55 min., Messrs. Southcliffe 45 min., Vaughan 25 min., Cripps 20 min., Fortlage 55 min., Dobson 10 min., Boileau 35 min., Brewster 15 min., Wells 25 min., Stanford 55 min., Molony 45 min., Baynes 10 min., Whittle 40 min., Kerry 10 min., Chaffey 20 min., Evans 25 min., Williamson 20 min., Morrison 20 min., Gibbs 30 min., Mellor 25 min., and Crook 25 min. *Soloists.*—The Hon. H. R. Grosvenor 40 min., Lt. Graham, R.N., 40 min., Flg. Off. Southey 30 min., Don Juan de la Cierva 55 min., Messrs. F. T. Courtney 1 hr., Wyllie 35 min., Shepherd 15 min., E. T. Symmons 55 min., Pargeter 45 min., Fagan 1 hr. 15 min., Bowen 2 hr. 30 min., Wells 5 min., Cooper 45 min., Sanders Clark 25 min., Molony 5 min., and Mellor 5 min. *Passengers.*—*With Mr. Thomson*—Mrs. Wells, Mrs. Shepherd, Mrs. Gibbs, Messrs. Belleville, Swinburne, Waterman, Walsh and Lovatt. *With Mr. K. P. L. Bowen*—Mrs. Crook, Miss Weldon, Messrs. Swinbourne and Dickson. *With Mr. Courtney*—Mr. Hosmar. *With Mr. Symmons*—Miss Potter.

Weather has been very bad this week, thunderstorms and gales stopped all activities on several days. On Thursday Mr. Molony made a very good first solo flight, and Mr. Cooper successfully did his tests for the R.Ae.C. certificate.

Members of all grades are reminded that there is a "House Warming" on Sunday next, when joy-riding will be available on at least three aeroplanes (weather permitting). Tea will be served in the Club House, and it is hoped that members who have not recently visited the Club will take this opportunity of seeing their headquarters in the furnished state.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Reports for weeks ending Aug. 15, 22, and 29.

Flying times 17 hr., 12 hr. 30 min., and 17 hr. respectively.

Instruction with Mr. Lines.—E. Scott, W. Cubitt, T. Whitlock, A. Cooper, A. Marshall, R. Potter, V. Harrison, H. Birchall. *Soloists.*—F. Gough, C. C. White, H. Pauk, H. Birchall, W. Cubitt, W. Ramsay, R. Moore.

During the past week two more members have been launched on their first solo flights and in each case a fine performance was put up, both by Mr. H. Burchall and Mr. W. P. Cubitt.

The latter put up a really remarkable exhibition, especially for an *ab initio* pupil, for in these days one very rarely finds a born pilot who indulges in advanced aerobatics on a first solo flight. We heartily congratulate Mr. Cubitt on his performance, and trust it will not be long before he makes his debut as a representative of the Club at race meetings.

The Club has now bought its second machine, and it is hoped that delivery will be made next week, when no doubt further activity will be evident

On Thursday this week the Club are holding a Civic Reception, the Lord Mayor, the Sheriff and Aldermen and Councillors having been invited to attend.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, Sherburn-in-Elmet Aerodrome.]

Report for week ending Aug. 27.

Flying time 14 hr. 15 min. *Instruction* 5 hr. 30 min. *Soloists* 6 hr. *Cross-country* 2 hr. 45 min. *Instruction (With Mr. Beck).*—General Atcherley, Miss Woodhead, Miss Watson, Messrs. Brown, Crouther, Fitton, Bailey, Lister, Batcock, Capt. Milburn. *Soloists under Instruction.*—Miss Woodhead, Capt. Milburn. *"A" Licence Pilots* – Miss Woodhead, Messrs. Wilson, Dawson, Thomson, Brackenbury. *Passengers with Mr. Beck.*—Miss Rhodes, Miss Crawford and Mr. Metcalf.

LS feeling jealous of NN's fortnight's leave in town decided on a visit to De Havillands' at Stag Lane, so taking advantage of the quagmire that should be an Acrodrome, remained on the deck from the start of the take-off to the end—in an adjacent field. On Wednesday NN's leave expired so she returned to Sherburn, behaving like a perfect little lady, and infinitely better for her sojourn in Town.

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Aug. 27.

Flying time 12 hr. 45 min. *Instruction* 10 hr. 40 min. *Soloists* 25 min. *Passengers* 1 hr. 40 min. *Instruction (with Mr. Bartlett).*—Miss Miles, Messrs. The Hon. H. C. N. Bathurst, P. Bryan, R. A. Hall, Capt. W. T. Hamilton, Messrs. T. C. Macauley, A. H. Downes-Shaw, M. A. Palmer, N. H. Warren. *"B" Pilots.*—Capt. W. T. Hamilton and Mr. O. P. Jones. *Passengers:*—*(With Capt. Shaw).*—Miss Bailey and Mrs. Hambrook. *(With Mr. Bartlett).*—Messrs. N. W. Birks and A. Thornton.

Flying was not possible on Monday.

The convenience of air transport was brought home to us last Thursday, when two members of the Club Committee delayed in London, arrived punctually for a meeting at Filton, thanks to the prompt service of Imperial Airways. They communicated with Croydon and a D.H.50a was immediately placed at their disposal.

Great interest has been provided for the members of the Club in watching the test flights at Filton of the Jupiter-engined Fokker flown by Lt.-Col. Minchin and Mr. Leslie Hamilton, in preparation for their attempt to fly to Ottawa. The Club would like to take this opportunity of wishing them every luck in their Trans-Atlantic flight.

The Club is very pleased to welcome among their new members Mr. O. P. Jones, the well-known Imperial Airways pilot, who has already used the Club for a 'busman's holiday by flying the Moth and the Bristol Brownie.

The Tunbridge Wells Light Aeroplane Club.

[Sec.: B. D. Winser, St. John's Road, Tunbridge Wells.]

The demonstration of flying at Tunbridge Wells on Saturday, Aug. 27, was quite a success. Four of the De Havilland Co.'s Moths went down from Stag Lane, the pilots being Messrs. H. S. Broad, F. L. St. Barbe, A. S. White and F. L. Mills, and the Shell-Mex all-gold machine also arrived.

The machines went first of all to the Frant Road ground where the crowd of about 2,000 people were rather too much for the limited number of police present to control, arrangements having been made for about a quarter the number. Still, the show went very well and the Mayor of Tunbridge Wells made his first flight, lasting for twenty minutes, at which he was thrilled and delighted.

After giving a demonstration of aerobatics all five Moths went over to Penshurst Aerodrome. At 15.45 hours a flight of No. 56 Squadron arrived from Biggin Hill and gave a splendid display of Service flying. After that the President of the Club, Sir Robert Gower, O.B.E., M.P., J.P., together with Major C. Westbrook and a party of the notabilities of Tunbridge Wells, motored over to Penshurst where much more flying was done.

The R.A.E. Aero Club.

The attempt made by the Royal Aircraft Establishment Aero Club to fly from Lympne to Bucharest on Aug. 23 ended in the wreck of the machine, a Hawker Cygnet (534 h.p. Bristol Cherub), in taking off at Lympne. The machine was heavily loaded with extra petrol tanks in the passenger's seat, and, having to take off up hill, just failed to clear the telegraph wires. Flt. Lt. R. L. Ragg, R.A.F., the pilot of the machine and a member of the Club, escaped without injury.

Everyone will sympathise with Flt. Lt. Ragg and the Club in their bad luck.

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 30; Tuesday, 36; Wednesday, 27; Thursday, 30; Friday, 32; Saturday, 38; Sunday, 10.

IMPERIAL AIRWAYS LTD.:
London—Paris—Zurich; London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin: Machines 87, passengers 624, freight 22 tons.

AIR UNION:
Paris—London: Machines 49, passengers 181, freight 11 tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 23, passengers 134, freight 645 lbs.

SABENA:
Brussels—London: Machines 14, passengers 78.

DEUTSCHE LUFTHANSA AG.:
Berlin—London: Machines 16, passengers 66.

PRIVATE:
Machines 8, passengers 6.

Total number of trips by British Machines, 91, carrying 625 passengers. Foreign Machines, 106, carrying 464 passengers.

COMPARATIVE FIGURES.

Week ending Aug. 27:
Machines, 203: Passengers, 1,089; Crews, 373; Total personnel, 1,462.
Corresponding week, 1926:
Machines, 175; Passengers, 960; Crews, 214; Total personnel, 1,174.
Corresponding week, 1925:
Machines, 168; Passengers, 968; Crews, 243; Total personnel, 1,211.
Corresponding week, 1924:
Machines, 137; Passengers, 669; Crews, 165; Total personnel, 834.
Corresponding week, 1923:
Machines, 121; Passengers, 578; Crews, 194; Total personnel 772.
Corresponding week, 1922:
Machines, 159; Passengers, 506; Crews, 272; Total personnel, 778.
Corresponding week, 1921:
Machines, 103. Passengers, 427; Crews, 129; Total personnel, 556.
Corresponding week, 1920.
Machines, 104: Passengers, 219; Crews, 129; Total personnel, 348.

Croydon Notes.

Whether it is a sign that the general public have now come to regard the inevitable occasional accident to civil aircraft as having no more bearing on the general safety of this form of transport than has the equally inevitable and occasional railway or steamship accident on the safety of rail or ship travel, or whether it is that the escape of all the passengers in Monday's crash has been taken as confirming the high standard of safety of the K.L.M. services, it remains a fact that there has been no falling off in K.L.M. traffic from Croydon during this week.

This is an excellent symptom, on which the K.L.M. are to be congratulated.

Croydon Aerodrome is generally and rightly regarded as the centre of organised air line work in the country. It is well to remember that it is rather more than this.

Through Croydon nowadays there pass quite an appreciable number of privately-owned aeroplanes—some of them on their way to the Continent. Also Croydon is the home of the Surrey Flying Services and of A.D.C. Air Transport.

Surrey Flying Services combine joy-riding, special air transport journeys, aerial photography, the organisation of exhibition flying, and a certain amount of reconditioning and reconstructing of machines. There is a distinct likelihood that they may in the near future produce a new economical and cheap two-seater of their own design.

A.D.C. Air Transport operate a fleet of six machines on what is essentially a "taxi" service.

During the four weeks ending Aug. 27 one of A.D.C.'s D.H.9s, G-EBQD, piloted by Mr. Neville Stack, has left Lympne every morning at times ranging from 4.30 a.m. to 5.40 a.m., and has arrived at Ostende—in no case later than 6.30 a.m.—carrying a load of *Daily Mails* weighing approximately 700 lbs.

The time of departure has always been too early for the meteorological service, and Mr. Stack has therefore had to do without any weather report—which is possibly just as well. On most days the weather has been the reverse of pleasant. Frequently it has been so thick that it seemed practically impossible for the machine to get across. There has been so much rain that the machine has used up four airscrews in the course of the month.

During the same period an organisation of a much more elaborate type has been carrying certain other newspapers from Croydon to Ostende. This service has also always succeeded in reaching Ostende, but has quite frequently failed to arrive until some hours later than Mr. Stack, owing to the impossible weather conditions between Croydon and the coast.

Even had the weather in this period been uniformly good this record would have been excellent. Under the actual conditions experienced it is little short of amazing. It goes to show that a small flexible air transport organisation can often carry through an undertaking on which a more highly organised concern will break down.

There is a very strong contrast between these Surrey Flying Services—A.D.C. Transport, and the air lines which are so much more prominent at the London Terminal Aerodrome. Neither of these undertakings receive a subsidy, as do all their more ostentatious neighbours. Both of them presumably maintain themselves—which none of the air lines can claim to do at present.

It may seem curious that it should be possible to make a commercial success of a business apparently so irregular in its nature as that of hiring out aeroplanes for special journeys, whereas the more or less steady business of running a regular air line fails to pay.

The explanation is that the overhead charges on the air lines—as they are to-day—swallow all and more than all of the operating profits which these lines really do make, whereas the smaller concerns—burdened by little in the way of capital and organisation charges—can live on their trading profits.

There is no doubt that in the case of Imperial Airways both the firm itself and the Air Ministry are getting some return for the losses incurred in running regular air lines. This return is a fund of knowledge and experience which will be of very great value at some future period.

It is to be feared that much of this fund of knowledge will be negative in character—showing rather what to avoid than the reverse.

In the meantime it is interesting to find that Imperial Airways nowadays run a large number of special trips quite outside of their regular services, and that these special journeys show a distinct tendency to grow in number.

Air Taxis Ltd. have been busy during the past week with aerial service and pleasure trips. One of their machines went down to Croydon to meet Messrs. Brock and Schlee. They have also done several Continental trips for papers.

Civil Aviation in India.

Lt.-Col. F. C. Shelmerdine, the Director of Civil Aviation in India, paid his first official visit to Karachi, on Aug. 14, and at a reception organised by the Air League of India, outlined the probable official policy of the Indian Government for the development of Civil Aviation in India.

According to *The Times'* correspondent at Karachi, Col. Shelmerdine outlined a scheme of ground organisation to cover the route Karachi—Delhi, Karachi—Bombay, Karachi—Calcutta, and Calcutta—Rangoon.

This scheme would use existing aerodromes at Karachi, and Nasirabad, and temporarily at Delhi. It required new aerodromes at Bombay, and eventually at Delhi, a number of emergency landing grounds, a seaplane base at Calcutta, a refuelling base at Akyab, together with new sheds, workshops, wireless installations, and meteorological outfit.

To man this projected ground system it would be necessary to train an Indian staff, and to bring legislation in India up-to-date, to comply with the International Convention.

The Indian staff should consist of men who had learnt to fly and were themselves practical pilots. At present there were no facilities for flying training in India, but the Air League of India proposed to form a Flying Club at Karachi.

If the proposed club actually came into existence it would provide the initial flying training for the required staff. Men so trained and selected for the Civil Aviation Staff would then have to go to England for training in their actual duties, for as there was no Civil Aviation in India, they obviously would have to go outside that Dominion to learn how to control it.

The advantage of giving preliminary flying training in

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India was that they could thus select men for their flying aptitude, and avoid sending to England for training men unlikely to become good pilots.

One is a little uncertain as to the complete accuracy of the foregoing report. There does not seem to be any necessity for the staff controlling Civil Aviation in India or elsewhere to be all "good pilots." There would undoubtedly be an advantage if a fairly large proportion of that staff had some fairly intimate knowledge of flying,—which is by no means the same as being a "good pilot." There is good reason to believe that what the Government of India want is that commercial aircraft operating within India should be owned by Indian companies and manned by Indian crews, and it seems probable that Col. Shelmerdine's reference to the preliminary flying training which it is proposed to give in India refers to the hoped-for Indian flying personnel rather than to the official ground control staff.

A POTENTIAL RECORD-BREAKER.

At the present rate of progress there seems to be quite a possibility that nobody will get across the Atlantic from East to West this year. And even if anybody does, there are still plenty of long-distance records to be beaten, if anybody thinks it worth while to put up the money.

If this note should catch the eve of anybody who is prepared to take an extensive interest in long-distance flights, one would like to put him in touch with the designer of a twin-engined monoplane, which, if the scientific knowledge of these days is worth anything, ought to have a non-stop range of about 4,500 miles. The designer himself has a distinctly good record as a contributor to the success of some excellent aircraft, so one has a good deal of confidence in his ability to make good his claims for this design.

Such a machine, if work were started on it now, could be ready for long-distance flights early next Spring. Those who are interested in the design are quite willing themselves to stand in on the cost of production, so that whoever may be interested in this suggestion need not necessarily buy the machine outright.

A WELCOME RETURN.

Old timers in the Flying Services will be glad to hear that Commander John Seddon, R.N. (retired), one of the earliest and best of R.N.A.S. pilots, has recently joined the staff of Accles and Pollock, Ltd., the famous steel-tube manufacturers of Oldbury, near Birmingham. Commander Seddon's job will be that of liaison officer between Accles and Pollock and the aircraft firms, most of whom are old friends of his.

Commander Seddon can claim to be one of the earliest pioneers of British Aviation. As a very young Lieutenant R.N., he was smitten with the idea of all-metal aircraft,—and in the days when nobody knew anything about the design of aircraft. The result was the production by Accles and Pollock Ltd., in 1909 of some cleverly manipulated steel-tube hoops which Lieut. Seddon ordered to be specially made for the framework of his experimental aircraft. This machine was on view at the Wolverhampton Flying Meeting early in 1910. It never flew, because, unfortunately, like the majority of aircraft designers of the period, Lieut. Seddon's knowledge of aerodynamics was not equal to his knowledge of structural engineering. But at any rate it showed originality of thought in the right direction, as is proved by the fact that only now, seventeen years afterwards, are we really taking seriously the problems of all-steel aircraft.

When the Naval Wing of the Royal Flying Corps came into existence in 1911 Lieut. Seddon was one of the first to join and soon became one of the best pilots in the Service. It was he, incidentally, who gave Mr. Winston Churchill, then First Lord of the Admiralty, his first experiences in the air, and for a long time his experience was constantly called upon by Mr. Churchill in building up the R.N.A.S.

Besides his regular flying duties, Lieut. Seddon was responsible for a great deal of very valuable experimental engineering work in the Royal Naval Air Service. And several of our most successful aircraft firms owe much to his steady advocacy in the Service of improvements in design and construction which they produced.

Towards the end of the War Wing Cdr. Seddon, as he then was, went to America on a special mission, where he doubtless absorbed a good many ideas on engineering which will now be valuable to him.

After the Armistice Cdr. Seddon resigned from the Royal Air Force and went back to the Navy, from which he retired some years ago.

His old friends concerned with aviation will be delighted to see him among them again and one bespeaks on his behalf a welcome from those who have yet to know him.—C. G. G.

TESTIMONY.

Titanine-Emaillite Ltd. has received the following telegram from Mr. Broad regarding the World's Light Aeroplane Speed Record secured by him on the Tiger Moth:—

"The clean finish of the 32-130 h.p. 'Tiger Moth' on which I secured the World's Light Aeroplane Speed Record at 186.47 m.p.h. over hundred kilometres closed circuit last evening is due in no small measure to the use of Titanine.—H. S. Broad."

FARES TO VENICE.

The Italian State Railways are making special arrangements for visitors to Venice in connection with the contest for the Schneider Trophy. The reduced return fares are, approximately, 1st Class £14 16s., and 2nd Class £10 18s.

Full particulars will be supplied by the Italian State Railways, 16, Waterloo Place, Regent Street, London, S.W.1.

PERSONAL NOTICES.

Deaths.

CAMPION.—On Aug. 23, at Cairo, Egypt, suddenly, from heart failure, Oliver St. Leger Campion, M.R.C.S., L.R.C.P., late Captain R.A.M.C., and Flt. Lt., R.A.F., beloved third son of Charles A. E. Campion, of Rocklands, Beckenham, Kent, aged 35.

Flt. Lt. Campion joined the R.A.F. (Medical Branch) in April, 1921, from the R.A.M.C., and served as Medical Officer to No. 100 Squadron at Clondalkin, Ireland, and No. 2 Squadron at Crumlin, near Belfast. He was also on the Staff of the R.A.F. Central Hospital at Finchley. Flt. Lt. Campion was transferred to the Reserve of Air Force Officers (Medical Branch), in April, 1923.

KELLY.—On Aug. 26, at Upavon, Wiltshire, as the result of a flying accident, Harold Cyprian Kelly, Plt. Off., R.A.F.

Mr. Kelly entered the R.A.F. with a S.S. commission on Sept. 28, 1925, and was posted to No. 3 (Fighter) Sqdn., at Upavon, for a course of instruction. He was involved in an accident in 1926.

SMITH.—On Aug. 26, at Heliopolis, Egypt, as the result of a flying accident on Aug. 24, F-S. Gilbert Smith, No. 45 (Bombing) Sqdn. R.A.F.

Forthcoming Marriages.

JOHNSTONE—ZINKEISEN.—A marriage has been arranged between Capt. Edward Grahame Johnstone, D.S.C., late R.N.A.S., and R.A.F., elder son of Lady Stevenson, 22 Old Queen Street, Westminster, and Doris Clare, elder daughter of Mr. and Mrs. Victor Zinkeisen, of 3 St. Andrew's Place, Regent's Park.

NEVILL—REIDY.—The engagement is announced between Flt. Lt. Richard Thornton Nevill, R.A.F.O., only son of the late Francis Richard Nevill and Mrs. Nevill, Glyncoed, Llanelly, Carmarthenshire, and Kathleen Carmel, second daughter of Mr. and Mrs. J. Reidy, of Ballynoe, Rushbrooke, Co. Cork.

Marriage.

BURNS—THOMPSON.—On Aug. 20, at the British Consulate and in Christ Church, Rio de Janeiro, by the Venerable Archdeacon Morrey Jones, William Robert Wheatley Burns (late Capt., R.F.C.), elder son of the late Dr. Burns and of Mrs. Burns, Kent House, Carlisle, to Marjorie Thompson, M.B., Ch.B., daughter of Mr. and Mrs. Fred Thompson, Shaw Bank, Stalybridge.

Births.

CHAPPELL.—On June 2, at Karuiza, Japan, to Mary Doris, wife of Flt. Lt. R. W. Chappell, R.A.F.—a daughter.

DON.—On Aug. 28, at 60A. Redcliffe Square, S.W.10, to Mary Monica (*née* MacDermott), wife of Flt. Lt. David S. Don, R.A.F.—a son.

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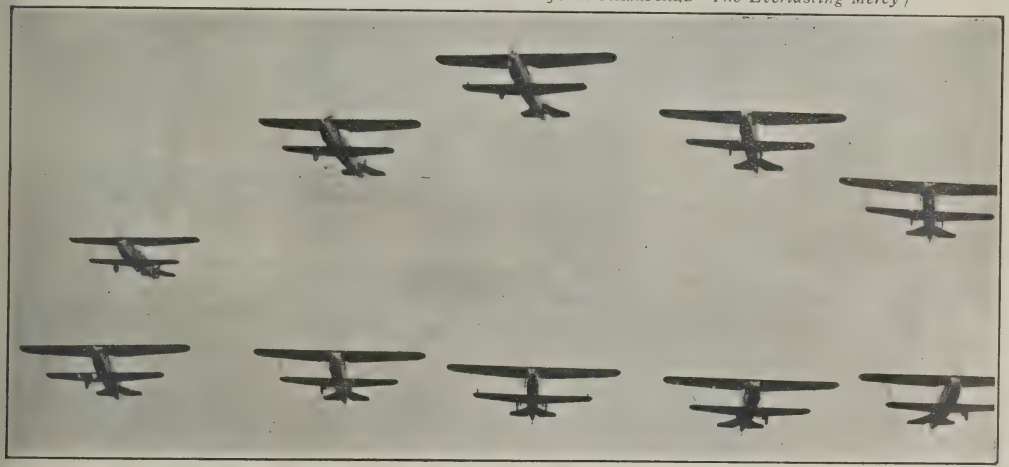
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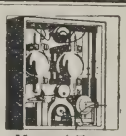
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MR. Bert Hinkler, flying his 30/80 h.p. "Cirrus Avian" on Saturday, August 27th, 1927, accomplished a non-stop flight of 1,200 miles from Croydon to Riga, Latvia, in 10¾ hours. His average speed was over 100 m.p.h. and petrol consumption was 30 m.p.g.

Major F. A. de V. Robertson, the well-known Aviation Correspondent, writing of this flight, says:—

"AT a time when British long non-stop flights have not been favoured with the best of fortune it is not fitting that this record set up by Bert Hinkler should be hidden under a bushel.

Nothing to compare with this non-stop flight of 1,200 miles in a tiny aeroplane has ever been accomplished before. The only flights which can at all be classed with it are two previous exploits of Hinkler himself. In 1920 he purchased an Avro "Baby" single-seater with a ten year-old "Green" engine of 35 h.p. In this he set off from Croydon on May 31st of that year and flew non-stop to Turin, 650 miles, in 9 hrs. 35 mins. On April 11th, 1921, Hinkler flew from Sidney to Bundaberg, a small station in Queensland. This was a non-stop flight of 800 miles in 9 hrs. and it held the record for many years."

Following the remarkable successes obtained by Mrs. Eliott Lynn, piloting her own "Avian," the above is further evidence of "Avian" supremacy.

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THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 10.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON TWO EXTREMES.

At first sight there does not appear to be much affinity between The Right Honourable the Viscount Cecil of Chelwood, son of the great Earl of Salisbury and scion of generations of Anglo-Norman aristocrats, and Mr. Charles Levine, New York Jew dealer in secondhand war stores. Yet, on the principle that extremes meet when the wheel has gone full circle, they have this in common, that each has been closely concerned for several years with getting rid of the material of war, and that each is typical of one of the two classes of human beings which have been responsible for involving all the other classes in the most bloody wars in the World's history.

Lord Cecil, despite his descent from a long line of fighting men, is one of those whole-souled pacifists, who, out of the innate goodness of their own natures, believe that mankind can be made peaceful by sheer education and reasoning. And they believe that, by force of example, violence can be defeated by non-resistance to violence.

Levine, on the other hand, is one of the finest specimens, speaking purely zoologically, of the Ashkenazim (or Tartar) Jew at present held in captivity by modern so-called civilisation. He is the typical predatory tribesman, transmuted to a limited extent by that civilisation to conform in a general way with the notion which most people have of a Jew business man.

But those who have met with his business methods in the United States have recognised that his methods are much more those of the fighting man than of the peaceful trader. And his short public career in Europe goes to prove that the dictates of his personal courage and combativeness are in no way hampered by business considerations.

Jews and Jews.

The Semitic Jews from Palestine, the descendants of the tribe of Judah, who were sent back to Jerusalem by Cyrus of Persia soon after 600 B.C., have never been noted for their physical courage. They have spread all over the World, they have amassed fortunes where other people have made livings, and they have made livings where other people have starved, purely by industry and cunning combined with meekness, and an unlimited capacity for taking oppression lying down and making a profit out of it.

Of course, out of so many millions there have been Semitic Jews with physical courage and there have been many of very fine moral character. Also, though the Semitic Jew is very shrewd in business, of necessity, he is almost invariably extremely generous to his friends, very straight in business and very loyal to those who behave well to him.

Compared with the Semitic Jew the Tartar Jew is the opposite extreme. He has quantities of purely animal courage, he is reckless physically and in business, and he will quarrel with his best friends on the slightest provocation.

At the risk of boring the older readers of this paper by reverting to a subject with which they are already well acquainted, one feels that one must explain over again, for the benefit of new readers, an historical fact of which almost everybody in England is ignorant though it is perfectly well known to any decently educated German. That is, the origin of the Tartar Jew.

The Khazars.

Somewhere about the year 600 A.D., or just about 1,200 years after the Semitic Jews had been sent back to Judæa, the most powerful nation in what is now Southern Russia were the Khazar Tartars. A hundred years or so earlier the daughter of the Khan of the Khazars had married the son of a Byzantine Emperor. That may give some idea of the importance of the Khazar people.

The Khan of the Khazars of about 600 A.D. came to the conclusion that mere paganism was beneath the dignity of a nation of their importance, and he sought about for a decent religion for them. Ultimately he decided that the simple monotheism of the Jews would be more easily understood by his square-headed fighting men than the tangled Trinity



THE RECORD-BREAKER.—Mr. Broad, in the De Havilland Tiger-Moth (D.H. engine, 130 h.p.), on which he flew 100 kilometres at 186.4 miles per hour, and reached 20,000 feet in 17 minutes, flying over the Wembley area, with the Stadium in the background.—*("Aeroplane" photograph.)*

of the Christians, complicated as it then was by the Arian and other heresies. So some millions of rich powerful fighting Tartars went Jew by order.

The Khazars were the terror of Western Europe, and every small warring King hired Khazar cavalry to help him. And if he could not afford such luxuries he dressed up his own light cavalry in imitation of the Tartars. Hence the Hasar, or Hussar, regiments in all European Armies to-day,—with their Tartar caps, jackets, boots and swords, when in full dress.

Later the Khazars were subdued by the Scandinavian-Russian aristocracy founded by Rurik—the builder of the Russian Empire. And so they sank to a weak remnant herded in the Ghettos, and became the victims of pogroms organised by the Muscovite Russians, their tribal enemies, though of the same Japhetic race. And because of their innate fighting spirit they never amalgamated with the people of the country as did the Semitic Jews who came to Western Europe by way of the Mediterranean.

An appreciation of that fact will explain at once the difference in mentality between the Semitic Jew and the Tartar Jew. These Tartar Jews are called Ashkenazim presumably because Ashkenaz was the son of Gomer,—who was supposed to be the tribal ancestor of the Cossack-Tartar tribes just in the same way that Judah the son of Israel was the father of the Jewish people. And Gomer himself was the son of Japhet.

This brief dissertation may help to indicate the racial difference between these Japhetic Jews and the ordinary Semitic Jews, the descendants of Shem.

The Present Rulers of Russia.

The importance of this racial difference may be realised when one considers that Russia to-day is governed not by Semitic Jew traders but by Japhetic Jew fighting men. When you consider that there exists East of Warsaw a population of some hundreds of millions or so governed by men more or less of the Levine type, full of animal courage, reckless of consequences where their ambitions are concerned, and extraordinarily cunning in their negotiations up to the point where negotiations end and physical action begins, some idea may be got of the dangers which lie before Western Europe and of the problems with which the statesmen of Western Europe have to deal.

Consider also that these Ashkenazim control masses of fighting men—hordes of Tartars and Turcomans, tough and mobile cavalry and Muscovite infantry, as stolid and enduring in defence as any in the World—and you see that they have the human material for a very fine army, if they can officer it and provide it with mechanical equipment.

When such a nation has made all the preparations which it considers necessary, and has conducted its international negotiations as far as it wants them to go, and then makes its westward jump regardless of consequences, just as Mr. Levine made his reckless jump from Le Bourget to Croydon, the consequences are likely to be distinctly unpleasant for those among whom the fighting men of that nation happen to land.

Russia's Air Strength.

How far Russia is actually ready for the attack on Western Europe none can say. What we do know is that the Russians have been buying quite large quantities of aircraft material in Europe. They have bought a certain amount of aero-engines and other material in this country, but not enough to be in itself anything like equipment for even a squadron of an Air Force. They have bought a fair number of aeroplanes and engines in France and Italy, and a good deal more in Germany. But the whole lot is not enough to make a Russian Air Force dangerous.

The Poles, who, being next door to Russia are naturally most immediately interested in Russia's military strength, are of the opinion that the actual strength of the Russian Air Force at the moment is just about enough to make it dangerous to any of the Central European States for a few weeks. But the opinion in Poland seems to be that what with ordinary flying crashes, and whatever damage might be done by anti-aircraft guns and hostile aircraft, the existing Russian Air Force would cease to be any danger after three or four weeks of war.

At present Russia is not in a position to build aircraft or engines at a rate which would make up for the wastage of war even on such a comparatively small scale. Of the aeroplanes which Russia owns practically all were built in Europe. But some few new types, some of which possess quite considerable technical merit, have actually been designed and built in Russia. Certain of these were illustrated in the last issue of *All the World's Aircraft*.

The question which nobody in Europe, except perhaps the Intelligence Department of the various War Ministries, can answer is, what is the actual output of the existing Russian aircraft factories and what is the possible limit of expansion of those factories? And those Departments of Military Intelligence are not very likely to disclose for the benefit of the public how much they know. We can only get a very rough idea of the possibilities from what we actually know has been done.

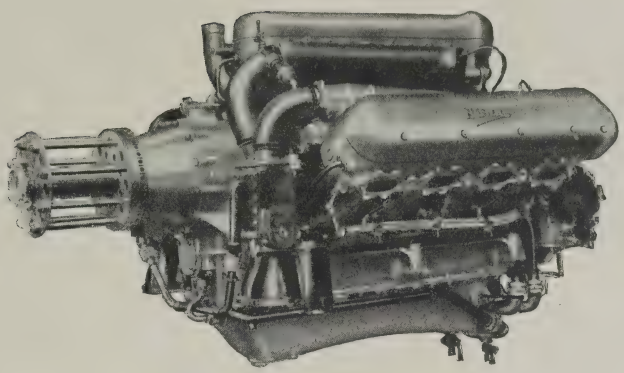
Russian Factories.

We know that several years ago the Junkers Company tried to organise a factory near Moscow to build passenger machines for the air line between Russia and Germany. And we know that the Junkers Company gave it up as a bad job because of the impossibility of teaching the ordinary Russian to do mechanical work up to the standard demanded in the construction of the Junkers machines.

That failure may have been due to Russian cunning. All labour being controlled by the Soviet Government, there is



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a possibility that after the Junkers Company had built and equipped their factory, they were simply not allowed to have the men who could run it properly. The Russian Government may have deliberately played the game of getting the Germans to organise the factory and of then freezing them out so that the Russians could get possession of it.

Apart from that we do know that the Russian is a very bad mechanic. There are plenty of brilliant Russian engineers. Some of the most revolutionary notions in all branches of Engineering have been invented by Russians. But the Russians are always a people of extremes, and, while some of them may be very clever at theoretical engineering, the rest of them are very bad mechanics.

Nevertheless, the Russians under the Tzar managed to run the railway from Moscow to Vladivostok on the Pacific very fairly well. And Russians have managed to run motor-cars and all other kinds of machinery. And they have known how to run factories. For example, for quite a long time the Provodnik Rubber Works was the biggest and one of the best organised in the World.

Also, though he cannot initiate, the Russian is always capable of monkey-like imitation, and if he is held down to his job can be compelled to do mechanical work which performs its functions. And Russia is always prepared to hire people as teachers.

Just as Mr. Levine has hired Mr. Chamberlin and M. Drouhin and Mr. Hinchliffe for his own purposes, discarding each in turn as he has ceased to need him, so the Russian Government has hired, and will go on hiring, specialists in each and every activity in which they are needed. And just as Mr. Levine managed to fly his machine himself, badly but effectively, when he had no one else to help him, so the Russians will do their own air work when the time arises.

Russia's Air League.

For the past six years or so, the Russian Government has been backing a kind of Air League, called the Aviachim, or "Friends of the Red Air Fleet," which has collected by various immoral forms of moral suasion quite large sums of money towards making Russia airminded.

The Daily Mail has apparently just discovered the existence of this Russian Air League, and has coupled to it "Moscow's Air War Plot," though there is actually no fact disclosed in the scare-line articles on this subject which has not been made known in The Aeroplane at any time during the past three or four years at least. But there is interest in reading quotations in *The Daily Mail* from various Russian papers stating quite definitely that certain districts are building squadrons of aeroplanes.

For example, *The Izvestya* states definitely that the Workers of Kharkov and the peasants of Odessa and the railwaymen at Tver and the population of Tula and the iron-workers of Krivoy Rig (?) and the people of Omsk are all building squadrons or individual aeroplanes.

The assumption is that these various districts are being forced, or persuaded, to subscribe enough money for the building of these machines, just as during the War 1914-18 individual cities in England and districts in the Overseas Dominions subscribed each enough money to build an aeroplane to be named after the subscribing place. That at any rate does show that the scheme for national subscriptions to aeroplanes which was started so many years ago is still operating.

And one does not imagine that the Russian Government allows the Secretary-General of the Aviochim to attack in *The Izvestya* the High Command or the Administration of the Red Army Flying Corps or to publish misleading articles decrying the state of Russian Aviation. There are some things which they do better in Russia.

On the other hand the fact that districts should be thus subscribing to buy aeroplanes for the Central Government seems to indicate that the Central Government itself is going ahead with the mass-production of aircraft.

The War Spirit.

The idea rather seems to be that by working up these subscriptions in the different districts the Russian Government is working a very useful scheme not only for increasing airmindedness in Russia, but for educating the Russian peasantry and workers up to the idea that they are going to have another war in the fairly near future.

Russia must have war before long. The older men of the Red Revolution of 1918 and thereabouts are dying out. Some have been murdered, just as the early French revolutionary leaders were murdered. Some have died natural deaths. And the rest are beginning to feel that their power is slipping away from them.

Just the same thing happened in France after a few years of the French Revolution. While the various factions were fighting for power those on top were able to hold their followers together by denouncing those of the opposition factions as traitors to the country.

Then when they had silenced all opposition, by the simple process of executing those who opposed them, people began to size them up at their true value and they had to find a new cry to maintain themselves in power. That cry was "The Country is in danger."

The Country in Danger.

By virtue of that cry the Revolutionary Directorate was kept in power while its under-fed badly-equipped troops fought the campaigns against the Austrians in the North and East of France, when the Holy Roman Empire supported the French *emigré* aristocracy in a somewhat half-hearted effort to get back into France.

And then, when the invasion of France was no longer a danger, a new danger was found which caused the Directorate to send an army into Italy under the command of a young officer named Napoleon Bonaparte, whose name meant no more to us in England at that time than would the comic name of any Russian General who may be in command in Siberia or on the Roumanian or Polish frontiers to-day.

In just the same way the Soviet Government in Moscow is crying "The Country is in danger." On the strength of it the Soviet has sent General Borodin and his Staff to help the Nationalists in China. All over Russia to-day England is held up as the danger to the Country, partly because the expulsion of the Bolsheviks from London gave a good excuse, and partly because it is always safe to kick up a war scare with a country which is not likely to make any attack.

If the Russian Government began an outcry that the country was in danger from Poland or Roumania or the Baltic States there might be some possibility of frontier scraps starting which would involve the country in some sort of war. But at the present moment the Soviet game is to stir up the war spirit with the cry that the country is in danger from a nation which is obviously not going to be the aggressor, and so get together the necessary men and munitions for a first-class army, at any rate in point of numbers.

When that Army, together with what the Soviets imagine to be an adequate Air Force, is good and ready, then Russia will start that Westward jump into Europe about which the ambitious young officers of the Red Army have been talking for the last four or five years.

The Point of Attack.

And then the fun will begin. There are plenty of excuses for it. Russia could find a reason for war with Lithuania or Poland or Roumania at any moment.

She is not likely to attack Europe through Lithuania into East Prussia because the country there is more heavily wooded and more broken than it is further South. And many Russians have unpleasant memories of the Masurian lakes where the great von Hindenburg defeated the much-advertised Samsonoff, who died a prisoner in Germany a year or two after he had been described so vividly by the newspapers as having died gallantly defending the retreat of his Army.

Nor is the attack particularly likely to be made on Poland. For not only is the Polish Army very well organised with a very useful Air Force to back it, but Poland can be comparatively easily reinforced by Western Europe through Germany and the Baltic ports.

According to the doctrines of von Clausewitz, Poland being the strongest part of the line ought to be the point of attack. But the probability is that the attack will be made through Roumania and into Hungary. Russia always has the grounds of a quarrel with Roumania over the Roumanian occupation of Bessarabia, which, though there are many Roumanians among the population, has been Russian territory for generations. And a successful attack through Roumania would let the Red Army into Europe as far as the Carpathians before anything much could be done by the Western Powers to stop it.

The probability is that such a penetration could go on for a year or so before the Western Powers could agree to take a hand in the game, and before France would consent to arming Germany for the defence of Europe. And after that the whole of the great Central European Plain would become one vast battlefield, as it has been in past centuries when the hordes of Attila and the other great Tartar leaders swept across Europe.

Peace, Perfect Peace.

In the face of such a prospect as that we have the League of Nations existing ostensibly for the purpose of disarming the World.

One uses the word ostensibly advisedly, because there are in the League of Nations two main factions. There are those pure idealists who honestly believe that if the Great Powers voluntarily disarm themselves they will induce Russia to disarm by sheer force of example. And there are those statesmen, politicians and others who see in the League of Nations a gathering together of the Powers which may lead,

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through the continual meeting of their representatives at Geneva, and that kind of familiarity which breeds a friendly contempt, to an actual League of Western Europe against Russia.

Within these two factions are all sorts of interests and self-interests. The Communists of the World support the idealists because they see in the possible disarming of the fighting Services of the nations the chance of revolution in their own countries. There are also small nations outside of Europe which see in the League of Nations a chance of protecting themselves under the wings of the Great Powers, and of getting a place in the sun at the same time.

The Limit of Limitation.

So far as Lord Cecil is concerned there is no doubt that he does honestly believe that general disarmament would make for peace. But the thing which nobody knows is the precise point to which he and those who think with him would carry disarmament. In other words what is the limit for the Limitation of Armaments?

Lord Cecil is far too intelligent to imagine that armies, navies and air forces can be altogether abolished. He cannot help knowing that every human being is to some extent a predatory animal and that a disarmed Europe would be at once a defenceless prey to its own lower-class population as well as to the lower-class nations to the East.

In this connection one does not use the phrase lower class in the social sense, but purely in the intellectual sense. There is just as high a proportion of predatory animals among the socially upper classes as there is among the so-called working classes.

Naval Disarmament.

Lord Cecil's precise point of view on that question is not of immediate importance. The question on which he has parted from the British Government is that of Naval Disarmament. And here one finds oneself absolutely in agreement with him though from an utterly opposite point of view.

One gives Lord Cecil credit for believing on the highest moral grounds that if Navies can be abolished we shall have made a great step towards universal peace. One's own point of view is that if navies could be abolished we should have a lot more money to spend on the kind of armament which is much more likely to assure universal peace.

Let us use our old friend Euclid's method of reducing the argument to an absurdity. Supposing we abolished all the air forces and all the armies of Europe and maintained only the navies of Europe. And supposing the Russian Red Army then chose to take its promised promenade to Paris.

All the World's navies could not do a thing to stop it. They might put landing parties ashore just to protect the ports of the civilised powers against capture, and their guns might do something to cover the aforesaid ports, in spite of the old axiom that a gun in a fort is worth two on the water. But they could do nothing to stop the progress of a Russian army till it came to the water's edge.

But if we turn the argument the other way round we get rather a different picture. Suppose we abolish all the World's navies, and supposing we spend all the money on armies and air forces. Then we can have, for about half our present expenditure on navies, extremely mobile forces on land and in the air which would stop anything in the way of a Russian advance long before it could do any real harm to civilised Europe.

Germany's Example.

Look at Germany to-day as an example. Germany is relieved of all the vast load of expenditure which was poured out on her fleet before 1914. Germany has a very small Army, which is highly efficient. And as a result, Germany is able to spend money on Civil Aviation in a way which is not possible for any other country in the World.

If Germany were allowed under the Treaty of Versailles to spend that money on an air force, she could have quite easily the most powerful air force in the World. And all the ground organisation of aerodromes all over Germany, with their wireless stations and all, means so much perfect accommodation for aircraft in time of war.

Mind you, one is not for a moment seriously advocating the abolition of navies. That would be far too drastic a step to take all at once. One is quite content to see navies, as we understand them, die a natural death. After another war or two we shall find the huge expensive fighting ships of to-day are merely a liability and not an asset. But allowing for the naturally slow development of national minds, we must just allow navies to die slowly.

But navies will not die without a struggle, because quite apart from the political interests of the naval Services themselves there is so much money to be made in building warships as a trade that the people in that trade, who happen to be just about the biggest tradespeople in their respective countries, are not going to let navies dies without a struggle.

The Power Behind the Navies.

The fact is that all navies have behind them the vested interests of the steel and armament trades of their respective countries. And that means the biggest money-power in the World.

For example, American statesmen, of whom there are more than people think when they judge by American politicians, may be entirely willing to scrap the U.S. Navy knowing perfectly well that we shall never fight America and that the Japanese can be defeated by air without ever using a ship against them. But the American Steel Trust and its various auxiliary and allied trades have so much power in Congress that any American Government which dared to talk about any serious reduction in the Navy would be shot out of power on the spot.

Of course we may argue that if the United States embark on an enormous programme for the Air Corps and if the Air Corps insist, as it does practically already, on having its aircraft built entirely of steel, the Steel Trust would then have the job of supplying all the material to equip the Air Corps. That is all very well as an argument, but there is enough steel in the hull and the guns of one battleship to build all the aircraft and engines of a much bigger air force than any nation has got at the present moment.

Take it that a battleship weighs roughly 20,000 tons, and that the average aeroplane, taking big and small alike, weighs about two tons empty, then straightaway you see that you can get 10,000 all-steel aeroplanes out of the metal that goes into one battleship. No Power in the World has got 10,000 aeroplanes or anything like it. So it is quite obvious that orders for aircraft are no kind of use to any Steel Trust.

Consequently when Lord Cecil goes to Geneva and starts talking to the American Delegate about limiting the American Navy, the American Delegate's hands are tied.

And, lest one should be charged with self-righteousness, one is quite prepared to believe that the British Government's hands are not very much more free from the manacles of the British Armament Ring. For not many years ago the steel firms and their subsidiaries were credited with controlling the elections of over thirty Members of Parliament. And no Prime Minister can ignore a "lobby" of such strength.

Conscience and Compromise.

Men of the high moral character of Mr. Coolidge and Mr. Baldwin and the other real leaders of the State in America and here may be perfectly able to trust one another, and they may even be so far-sighted as to see that we are never going to fight the States, and that we are never going to want navies to fight Russia. And they may all be quite convinced that we can do very well with an odd cruiser or two to run about and shoot up possible pirates along the Chinese coast and to chase slavers in the Red Sea and the Persian Gulf. But they are also sufficiently men of the World to realise that at best life consists of dishonest compromises. And one imagines that it is just on this question of compromise that Lord Cecil's conscience stuck.

All the same, it was a pity that he resigned, for all foreign nations have confidence in his honesty of purpose and of utterance. He might have done better for the Empire by holding his job and compromising with his conscience.

Years ago, before 1914, one of the best men in the Royal Flying Corps found himself entirely in disagreement with the policy of the Department of Military Aviation at the War Office, and one asked him why he did not resign from the very important job which he held so as to show his disapproval of the official policy. His reply was that by holding onto the job he might do something to improve matters and that, though he had no particularly high estimate of his own abilities, if he threw up the job there were a dozen other men who would take it—none of whom could possibly know as much about the job as he did himself.

That is rather the view which Lord Cecil might have taken. One can only hope that his successor as the British Delegate at Geneva may be as able and as honest a man as he is.

America and Armament.

The whole position in relation to America on the question of naval armament is very delicate, and it reacts in extraordinary ways. The best people in the States regard themselves quite clearly as being an entirely self-governing section of the British people, which although independent politically is very dependent on the British Empire commercially, and must also be dependent on British good-will in the contest between America and Japan for the mastery of the Pacific. And they recognise that the United States and the British Empire together can control the World.

The trouble between us and America is that American Politics, thanks largely to the Irish and Mediterranean elements who are much more politically-minded than the



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Nordic elements in the States, are very much dirtier than are English politics because the best people in America, with a few patriotic exceptions, refuse to touch such a dirty game. And consequently there are always numbers of politicians who are ready to stir up anti-English feeling to catch votes for themselves.

English foreign policy has to take notice of this anti-English element in the States, even in matters which apparently have nothing whatever to do with the States.

The Persian Aerodromes.

For example, there seems to be little connection between American politics and the refusal of the Persian Government to let Imperial Airways use the aerodromes along the Persian Gulf on the road between Basra and Karachi. In the days of Palmerston, or even of Lord Cecil's father, the great Lord Salisbury, we should merely have landed an adequate force at each aerodrome and have told the Persians to come and stop us if they could.

Primarily the Persian prohibition merely looks as if the Persians were being silly, or as if the British Government or Imperial Airways had omitted to offer a large enough bribe to some Persian official. On further consideration one might imagine that the Persians had been got at by the Junkers Company, for there was a story about the Persians refusing to let Imperial Airways use their aerodromes unless we on our side let the Junkers firm run air-liners through from Teheran to Baghdad. Then there has been also a story about the influence of the Russian Bolsheviks in Persia stopping us from using the aerodromes simply for the sake of being anti-British.

But, someone who generally knows quite a lot about the inside of international politics stated the other day that one of the governing reasons for our taking this Persian insult lying down so quietly is that we are afraid that if we show a strong hand in Persia the American oil interests, which are after the oil in Persia and 'Iraq in opposition to the Anglo-Persian Oil Company, will start agitating about our high-handed actions, and that then the anti-British elements in the States, moved by the Irish and the Communists, will make an international affair of the bullying of small nations by Great Britain.

Such an agitation would play into the hands of the steel people in the States and would further complicate our negotiations at Geneva about the reduction of naval armaments.

One does not guarantee the absolute accuracy of this statement. But it is at any rate an example of the way in which major and minor internal politics react upon international relations.

Yet all these small wheels within wheels are like the gusts and eddies which work constantly inside a steady wind setting in one direction. Some of them may blow momentarily in the opposite direction, but the big main current carries on. And in international politics, in spite of these anti-British gusts in America and in spite of the pro-Russian gusts among certain political sections in England, there remains always the steady set of the main political current in favour of Anglo-American co-operation against the Yellow Races as a whole.

The two extremes of the opposing races meet on one side in the Pacific and on the other in Central Europe. And there the English-speaking peoples will in the end find themselves fighting side by side.—C. G. G.

THE AIR LEAGUE'S POLICY.

The Air League Bulletin for August seems to show a very nice accretion of subscriptions though, for some curious reason, the reader of the Bulletin is left to add up the figures for himself or herself. One imagines the subscribers to the Air League would like to see something in the nature of a financial statement in each issue.

The Editor of the Bulletin seems to be unable to make up his mind whether it is an aeronautical magazine or a Bulletin of the Air League's doings. Many pages are devoted to recent questions in Parliament relating to the Air, ostensibly "From Our Parliamentary Correspondent." Most of them appeared in the daily papers months before, as well as in *Hansard*. And all of them appeared in The Aeroplane, though of course one does not expect members of the Air League to read The Aeroplane till they are better educated in air affairs.

An editorial note says that the Bulletin is in future to have a new form and is to be enlarged, so presumably the intention is to make it into a magazine—which will presumably be supported by the Aircraft Industry. Those who will be asked to support it will read with interest the Editor's opinion that :

> Despite years of optimistic oratory our present position in the air can only frankly be described as insignificant. We possess a total of but twenty commercial machines, including the five employed on the Cairo—Basra service, and we operate only 1,090 miles of the 36,700 miles of air routes in Europe. Of these Germany operates 14,862 miles and France 8,304. German commercial aircraft are now flying over 40,000 miles a day as against our daily average of 3,500 miles.
>
> Turning to the military aspect, we possess for Home Defence only about one-ninth of the number of military aircraft of our nearest neighbour. This estimate is based upon official American statistics.
>
> Yet Great Britain, the island centre of the Empire, is admittedly, of all the States in the World, the most vulnerable to aerial attack
>
> It is our object to lay such facts as these before the British people and thus gain support for a forward air policy not only in this country but throughout the Empire.

If these are specimens of the facts which are to be laid before the British people to gain support for the Air League, then the Air League cannot expect much success. There is an old American proverb that you can fool all the people some of the time and some of the people all the time, but you cannot fool all the people all the time. The Air League cannot hope to succeed by fooling people with the idea that our present position in the air is insignificant.

Admittedly our position in a good many ways might be better than it is. For example, we might have a more enterprising Trade policy, with the idea of preventing our American relatives from capturing all our overseas trade in aircraft. But even so our overseas trade is not insignificant.

To compare our commercial air lines with Germany's is either a deliberate distortion of facts such as is customary among politicians, or else it is sheer ignorance. There is no room for air lines in Great Britain, and we cannot operate air lines in country belonging to other nations. And we should do wrong if we spent the English tax-payer's money on financing air lines in the Colonies. As Mr. Churchill said, "Civil Aviation must fly by itself." To compare our air traffic with that of Germany is like comparing the railway traffic of Penzance with that of Manchester.

Turning to the military aspect, as the writer says, we have far and away the strongest Air Force in the World, and the best equipped. The people who are responsible for the Air League ought at least to have the sense to know that the strength of air forces cannot be measured in machines. And the Air League of Great Britain has no right to mislead readers of its official Bulletin in this way.

If the Air League cannot succeed by truthful, straightforward propaganda, for which there is plenty of material, it is bound to be a worse failure in the future than it has been in the past. For in the past it has at any rate been intellectually honest.—C. G. G.

THE R.Ae.S. AND I.Ae.E. AMALGAMATION.

At the General Meeting of the Institution of Aeronautical Engineers held on September 2 the revised terms for the amalgamation of the Institution with the Royal Aeronautical Society were carried by a majority.

One hopes that the amalgamation will prove to be to the benefit of both associations, and that the practical minds of the members of the Institution will do something to enliven the proceedings of the theorists of the Society.

THE ROYAL AERONAUTICAL SOCIETY.

The Secretary of the Royal Aeronautical Society, Mr. J. Laurence Pritchard, has issued the following official notice :—

> The Councils and general bodies of members of the Royal Aeronautical Society and the Institution of Aeronautical Engineers, having come to an agreement upon the terms of amalgamation, the two bodies are now getting together to put the agreement into practical effect.
>
> The full terms of the agreement, and a brief history of the negotiations leading up to it, are published in the Journal of the Royal Aeronautical Society for September, 1927.

ADVANCED AUSTRALIA.

Australia seems to be getting aeronautically ahead of the Mother Country in a good many ways. A leaflet from "The Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers (Australasian Branch, New South Wales Division)" announces Lecture Course No. 2 for 1927. Fourteen interesting lectures between August 8 and November 7 are announced.

This is certainly taking time by the forelock, seeing that the Royal Aeronautical Society of 7, Albemarle Street, W.1., and the Institution of Aeronautical Engineers of 34, Broadway, S.W.1, in this country are not yet amalgamated.

ESQUIMALT AS AN AIR BASE.

A Western U.S.A. paper reports that officials of the Royal Canadian Air Force are considering Esquimalt Harbour as a possible air port. Esquimalt has for many years been the only British naval base on the Northern and Eastern Pacific.

So far the Fleet Air Arm has paid no attention to Esquimalt, and for years there has been practically no activity by the British Navy in that part of the world. But when the war with Japan begins it will necessarily be one of the most important strategic naval points in the world, being, so to speak, the opposite number to Singapore.

The paper quoted refers to the probable development of Esquimalt as a port on an Imperial airship line, and says that the building of a mooring mast is being considered.

Blackburn
— IRIS —

THE FLAG-SHIP. The Secretary of State for Air going aboard the BLACKBURN "IRIS" (three Condors) for the cruise to the Baltic.

See "Aeroplane" Aug. 17th 1927.



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THE ROYAL AIR FORCE.

The London Gazette.

Aug. 30.

General Duties Branch.—Wing Cdr. William J. Ryan, C.B.E., is appointed Provost Marshal and Chief of the Air Force Police (Aug. 17) (vice Wing Cdr. Alan H. Jackson).

The following Flt. Cadets having successfully passed through the R.A.F. Cadet College, Cranwell, are granted perm. comns. as Plt. Offs. with effect from and with seniority of July 30:—F. R. Worthington, C. McK. Grierson, A. W. Sandeman, L. P. Moore, J. A. H. Louden, J. W. Gillan, C. D. C. Boyce, A. P. F. M. Berkeley, C. C. O'Grady, M. G. Philpott, C. W. Grannum, C. H. Turner, R. A. T. Stowell, E. J. Watson, W. D. Butler, de L. Cooke, W. M. Moore, R. J. O. Bartlett.

The following Plt. Offs. are promoted to the rank of Flg. Off.:—C. A. Anderson, D. V. Ivins, F. J. Parker, E. G. C. Stokes, L. M. Timmins, E. L. Wilson (July 12); C. P. Ashton-Jinks, C. H. L. Evans, F. Gower-Jones, V. G. A. Hatcher, C. G. Lucas, A. F. Merritt, W. J. Pickard, G. A. Underdown (July 16); R. H. Donkin (July 22); S. H. C. Gray (July 23).

The following are placed on the half-pay list, Scale B:—Flt. Lts.—E. M. Drummond (Mar. 20 to 28 inclusive); H. V. Rowley (Jan. 10 to 18 inclusive); Flg. Off. J. E. W. Bowles for one day (Jan. 14). R. F. Jessel, Lt., R.N., Flg. Off., R.A.F., relinquishes his temp. comn. on return to Naval duty (Aug. 16); Flg. Off. F. M. Rooth (Lt., Indian Army) relinquishes his temp. comn. on return to Army duty (Aug. 21). The S.S. comn. of Plt. Off. on probation R. S. Fleming is terminated on cessation of duty (Aug. 24).

Stores Branch.—Flt. Lt. T. S. James is granted a perm. comn. in this rank with effect from Nov. 27, 1926, on completion of probationary service; Flg. Off. J. W. Mitchell is granted a perm. comn. in this rank with effect from Oct. 1, 1926, on completion of probationary service. Plt. Off. H. N. Davies is promoted to the rank of Flg. Off (June 24).

Accountant Branch.—Plt. Off. on probation R. A. J. Mullarkey is confirmed in rank and promoted to the rank of Flg. Off. (Aug 3).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns., on probation:—Class A.—Flg. Off.—W. A. Ramsay (Aug. 13). Class A.A.—Plt Offs.—P. Kinsey (Aug .8); A. B. Maconochie (Aug. 8); E. Rea (Aug. 11). The following Plt. Offs. on probation are confirmed in rank:—I C. Horton (Aug. 4); A. G. Store (Aug. 9); H. J. Phillips (Aug. 16). Flg. Off. H. B. Hampson is transferred from Class A to Class C (May 20).

The comns. of the following Plt. Offs. on probation are terminated on cessation of duty:—L. Strangman (Apr. 15); A. C. Harper (Aug. 6).

Sept. 2.

General Duties Branch.—Group Capt. C. E. H. Rathborne, D.S.O., is placed on the half-pay list, scale A, Aug. 21 to Oct. 24, inclusive.

Air Commodore J. G. Hearson, C.B., C.B.E., D.S.O., is placed on the retired list at his own request (Sept. 1)

The following are transferred to the Reserve, Class A:—Flt. Lts.—A. F. White (Aug. 23); A. L. Russell (Aug. 27); R. H. M. Sheppard (Sept. 1).

Flg. Offs.—R. H. Stocken (Aug. 27); H. W. Westaway (Aug. 27); V. J. Hatton (Sept. 2); B. N. Murgatroyd (Sept. 2); A. J. Peacey (Sept. 2). Flg. Off. L. E. Maynard is transferred to the Reserve, Class C (Sept. 2); Flg. Off. (Hon. Flt. Lt.) W. H. Vetch (Capt., Indian Army) relinquishes his temp. comn. on return to Army duty (Aug. 27).

Stores Branch.—Wing Cdr. F. C. Williams, O.B.E., is placed on the half-pay list, scale B, Jan. 6 to 9 inclusive.

Accountant Branch.—Flg. Off. J. A. Coleman is transferred to the Reserve, Class C (Sept. 1).

Medical Branch.—J. McCarren is granted a S.S. comn. in the rank of Flg. Off. for three years on the active list, with effect from and with seniority of Aug. 17.

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. on probation in the rank stated:—Class A.A.—Plt. Offs.—D. H. F. Barnett (Aug. 15); M. G. Candy (Aug. 15); P. S. Clarke (Aug. 15); P. Drummond (Aug. 15); E. Batchelor (Aug. 16).

Flt. Lt. E. W. Simpson is employed temporarily with the Regular Air Force (Aug. 8); Plt. Off. on probation D. H. B. Clark is confirmed in rank (Aug. 30). The comn. of Plt. Off. on probation J. S. K. Inskip is terminated on cessation of duty (Aug. 6).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Off.:—No. 601 County of London (Bombing) Squadron.—T. J. R. Cornewall-Walker (July 26).

Appointments.

Week ending Sept. 5.

General Duties Branch.—Squadron Leader S. N. Cole, to No. 24 Sqdn., Northolt, 26/8.

Flight Lieutenants A. H. H. MacDonald, to remain at No. 15 Sqdn., Martlesham Heath, instead of to A. and G. School. P. S. Mumford, to H.Q., 'Iraq, 19/8. B E. Embry, A.F.C., to R.A.F. Depot, Uxbridge, 31/8.

Flying Officers (Hon. Flt. Lt.) L. P. Winters, to No. 7 Sqdn., Worthy Down, 1/9. E. G. L. Russell, to No. 460 Flight, Mediterranean, 23/8. D. Robinson, to R.A.F. Depot, Uxbridge, 12/8.

Pilot Officer C. H. Hockley, to R.A.F. Depot, Uxbridge, 24/8.

Medical Branch.—Flying Officer (Dental) A. P. McClare, to M.A.E.E., Felixstowe, 30/8.

Accountant Branch.—Squadron Leaders P. J. Wiseman, to No. 1 S.D., Kidbrooke, 31/8. A. R. Thomas, to No. 4 S.D., Ruislip, instead of to No. 1 S.D., 26/8.

A Fatal Accident.

The Air Ministry regrets to announce that Mr. Robert James Lowthian, a junior scientific officer at the Royal Aircraft Establishment, was killed at Farnborough on Aug. 30, in the course of the landing of a D.H.9a machine, in which he was flying as passenger. The pilot of the aircraft was uninjured.

At the inquest at Aldershot on Sept. 2, Flt. Lt. Hodgson, the pilot of the machine, said that the flight was for the purpose of experiment with instruments. The observer was strapped in. He was about over Hurst when he "felt the control of the tail fall down." [So the report gives it.—Ed.]

He looked round and saw his observer hanging onto the end of the parachute strings. He throttled back the engine and stalled the machine. The apex of the parachute was caught in a fitting at the starboard side of the machine.

Flt. Lt. Hodgson then described various manœuvres which he had tried to save the man's life. He said that the observer was nervous, but that nothing had happened to make him want to jump out. Replying to the Coroner, he said that the observer had undone his



ARMY TRAINING.—A Unit of the Experimental Mechanised Force now operating in the Aldershot Command Manœuvres being attacked by a Flight of Fighters of the R.A.F. The position of the gun on the left of the picture indicates that one machine has just passed. A third machine can be seen in the background.

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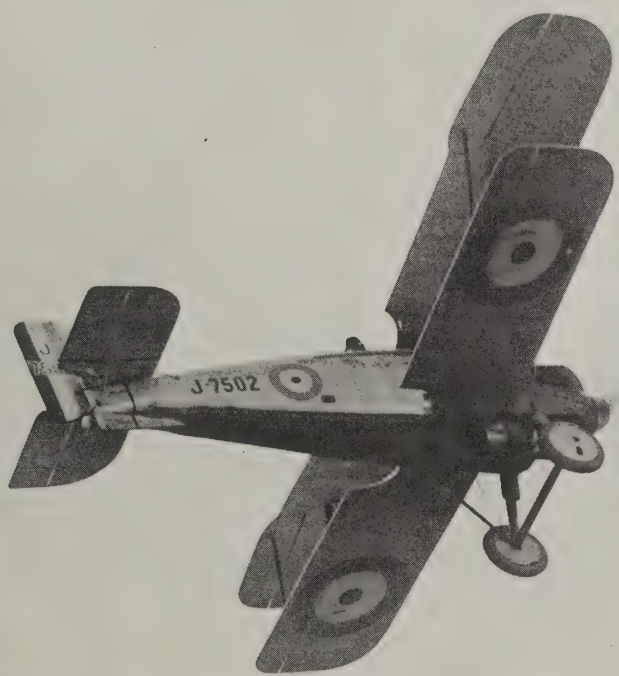


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Gloster "Gorcock" *"Flight" photograph*

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belt and he was under the impression that the observer had leaned over the side and fallen out.

The jury returned a verdict of accidental death and the foreman said that they thought great credit was due to the pilot for what he did in trying to get his man out of his very great difficulty. The Coroner said that he agreed with the Jury.

[Perhaps one may be permitted to hazard an opinion. Mr. Lowthian, being a nervous man, wished to justify his courage to himself and his friends, so made up his mind to do a parachute drop without telling anybody of his intention. He undid his safety belt, stood up in the machine intending to fall overboard and pull the parachute release at the same time. Unfortunately he pulled the release a second too soon, with the result that the pilot parachute caught in the gun-ring (or other cock-pit fitting) and held the parachute there.—C. G. G.]

Cadetships and Awards.

The Air Ministry announces that AA.s D. W. Lane (Gillingham, Kent), L. Crocker (Brixton), and K. P. Lewis (Bromley), from No. 1 School of T.T. (Apprentices), Halton, and AA. R. L. Phillips (Swindon), from the Electrical and Wireless School, Flowerdown, have been selected for cadetships at the R.A.F. Cadet College, Cranwell, on the results of the examinations held on completion of their three years' training as aircraft apprentices.

"Sir Charles Wakefield" scholarships valued at £75 each, have been awarded to Flt. Cadet W. T. F. Wightman (Upper Norwood) on the result of the recent competitive examination for entry into the R.A.F. Cadet College and to Flt. Cadet D. W. Lane. The "Hyde-Thomson Memorial Prize" valued at about £33 has been awarded to Flt. Cadet R. L. Phillips.

The R.A.F. in China.

A *Reuter* message in *The Times* of September 6 from Shanghai states that six R.A.F. machines were landed at Shanghai from H.M.S. *Argus* on September 5 and would be taken to the aerodrome on the racecourse.

A correspondent of THE AEROPLANE, writing from the Far East, says that No. 2 (Army Co-operation) Squadron is being withdrawn from Shanghai because the aerodrome there is too small for a full squadron, and although they were prepared to carry out all necessary active service operations the aerodrome was most unsuitable for general training and practice flying.

The six machines referred to in the *Reuter* message are therefore probably one of the three Flights which compose the R.A.F. Unit in H.M.S. *Argus*—which ship went down to Hong-Kong for annual docking at the end of July, and left a Flight of seaplanes at Wei-hai-Wei for work with the Fleet during her absence.

The seaplanes (Fairey IIId's) were moored out at buoys almost continuously for three weeks and operated in the open. There is a small slipway at Wei-hai-Wei, but no shed accommodation, which, although the conditions there are very good for seaplane work, is a good test for the machines and personnel of the Flight.

H.M.S. *Hermes* with two R.A.F. Flights is due to return home for recommissioning and refit in September.

Army Training and the R.A.F.

Army Training in the Aldershot Command Manœuvre Area began on August 24, and will end on September 24. The Royal Air Force are co-operating throughout the training. During the Brigade training, which ended on September 5, the principal work of co-operation was done by No. 4 (Army Co-operation) Squadron, supplemented by a Flight from No. 13 (Army Co-operation) Squadron (both equipped with Bristol Fighters).

During the Combined Training period from September 5 to September 21, and during the final manœuvre period, from September 21 to September 24, additional R.A.F. Squadrons will take part in the operations. These will include No. 11 (Bombing) Squadron (Horsleys), No. 12 (Bombing) Squadron (Foxes), No. 58 (Bombing) Squadron (Virginias), and No. 16 (Army Co-operation) Squadron (Bristol Fighters).

One of the problems which has arisen during the recent operations of the Experimental Mechanized Force in the Aldershot Command Manœuvre Area has been the protection of the Tank parks from attack by low-bombing aircraft.

High-speed tanks moving across country in open formation or along roads in widely-spaced column of route do not present an easy target to a bombing aeroplane, and are practically invulnerable to machine-gun attack by low-flying fighters because of their armour-plating. But the only defensive measures at present in existence for the protection of tanks parked close together during a halt is either to surround the parking-place with anti-aircraft guns, or to scatter the tanks immediately the warning of an approaching raid is received.

The latter alternative is obviously not a practical one where there are more than a dozen tanks in the park, and even where there are only a few, presumably some of them may be under repair and temporarily out of action. Tanks and other columns of mechanized vehicles will therefore have to move about accompanied by a large force of anti-aircraft guns (tanks themselves do not carry anti-aircraft guns), which will make each column less manœuvrable and each column and park a bigger target for aircraft.

From the point of view of defending the Tank parking-places a simple solution seems to be the adoption of the balloon-apron scheme, which was used so successfully in the London Air Defence Area during the latter part of the War 1914-18. The whole equipment, which would be very much smaller than that required to defend a small town or area, could be carried in the Tanks themselves.

One tried to discover, in the course of a week-end's leave in the manœuvre area, whether any experiments had been made on these lines by the Royal Tank Corps, but although the suggestion was not received with derision, it certainly evoked mild surprise, which may, of course, have been a blind. One gathered that the cost of compensating rabid farmers whose property has suffered from Tank attacks, was so high that the chances of extracting money from the Exchequer for other purposes were not good.

The capture, early in the operations of a "Southern" aerodrome by a detachment of "Northern" tanks suggests that the defence of aerodromes has not been treated seriously enough. Aerodromes will have to be surrounded with deep moats like Norman castles and defended with machine-gun parties to prevent the Sappers throwing bridges across. An alternative to the expensive moat or ditch might possibly be a series of concealed bear-pits, baited on the home side with barrels of beer, or some similar tank-temptation. (One seems to be getting out of one's depth.)—C. M. MCA.

The Service Flying-boat Cruise.

The Blackburn Iris II and the Short Singapore, two of the R.A.F. flying-boats which are making a cruise in the Baltic, arrived at Helsingfors at 08.00 hours on Aug. 31.

The Supermarine Southampton damaged an airscrew at Danzig and did not start and the Saunders Valkyrie was forced to alight off Königsberg with a leaking petrol pipe.

The Times correspondent at Danzig stated on Sept. 1:—

It is reported here that of the three British flying-boats which left Danzig yesterday at 10 o'clock two arrived at 7.45 p.m. yesterday at Helsingfors. All three alighted yesterday morning at 11.30 a.m. on the Frischenhaaf, near Pillau. After a short stay they took off again, but one of them was obliged to come down upon the sea near Neukuhren owing to engine failure. The other flying-boats continued their journey to Helsingfors. The damaged seaplane was towed to Neukuhren by an air police motor-boat from Königsberg

Unofficially one learns that the Southampton shipped a green sea in getting off, and broke an airscrew, which broke an engine-shaft. Also it is reported that the Valkyrie damaged her hull in alighting.

The R.A.F. flying-boats, the Blackburn Iris II and the Short Singapore arrived at Stockholm from Helsingfors at 14.00 hours on Sept. 5. They were met at Stockholm by the O.C. the air port and officers of the Swedish Air Force.

Air Commodore Hearson.

Air Commodore John Glanville Hearson, C.B., C.B.E., D.S.O., whose retirement from the R.A.F. at his own request appeared in *The London Gazette* of Sept. 3, was born in 1883. He was commissioned to the Royal Engineers in 1902 and was promoted to Captain in 1913 and Major in 1917.

In 1915 he learned to fly at Farnborough on a Maurice Farman biplane and his Royal Aero Club Certificate No. 1137 is dated Mar. 11, 1915. He was attached to the R.F.C. in 1915 and in January, 1916, he was appointed a Companion of the Distinguished Service Order for Service in the Field.

He was promoted to the rank of Wing Commander, R.F.C., in 1916, and Brig.-Gen., R.F.C., in 1917.

In 1918 he was appointed Director of Training, R.A.F., and in April, 1920, he commanded the R.A.F. Depot, Uxbridge. On Jan 1, 1919, he was appointed a Companion of the Order of the Bath.

He was British Air Representative of the British Delegation in Paris in 1922, and in June of that year he was appointed to H.Q. staff in 'Iraq. In October, 1923, he became Chief Staff Officer, 'Iraq Command.

He was promoted to the rank of Air Commodore in June, 1923, and in September, 1924, he was appointed Air Officer Commanding Special Reserve and Auxiliary Air Force.

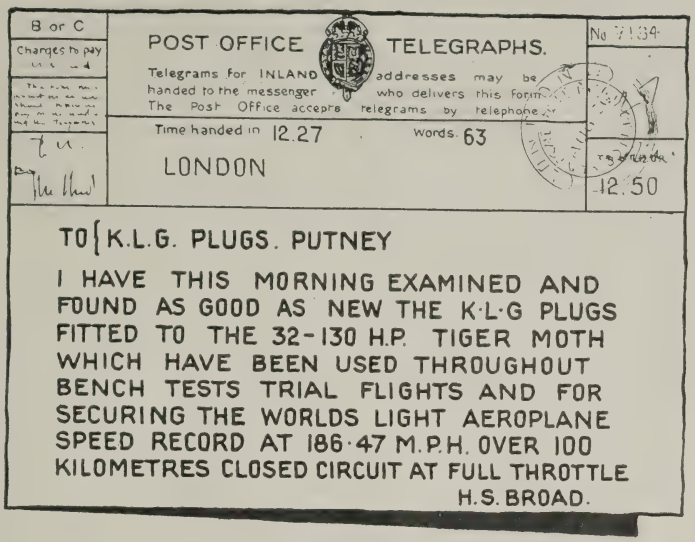
On Dec. 1, 1925, he was appointed to command the Air Defence Group, R.A.F.

The Chief of the Air Force Police.

Wing Cdr. W. J. Ryan, C.B.E., whose appointment as Provost Marshal and Chief of the Air Force Police was announced in *The London Gazette* of Aug. 30, was attached to the R.F.C. from the R.A.S.C. in 1915 as a Quarter-Master.

He was awarded a C.B.E. in the King's Birthday Honours in 1919 for distinguished services during the War (Major, act. Lt.-Col., A.S.C.) with the Independent Force, R.A.F.

On the formation of the R.A.F. in 1918 he transferred to that Service and in August, 1919, he was gazetted to the



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I HAVE THIS MORNING EXAMINED AND FOUND AS GOOD AS NEW THE K·L·G PLUGS FITTED TO THE 32-130 H.P. TIGER MOTH WHICH HAVE BEEN USED THROUGHOUT BENCH TESTS TRIAL FLIGHTS AND FOR SECURING THE WORLDS LIGHT AEROPLANE SPEED RECORD AT 186·47 M.P.H. OVER 100 KILOMETRES CLOSED CIRCUIT AT FULL THROTTLE

H.S. BROAD.

In the 32-130 h.p. "TIGER-MOTH," Capt. H. S. Broad has also, since sending this telegram, broken the world's light aeroplane altitude record, at Stag Lane, on Monday, August 29, reaching 20,000 feet in 17 minutes, and still climbing at 1,000 feet per minute, finally descending for want of oxygen,

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rank of Squadron Leader. He was S.O. in the Directorate of Personnel, Air Ministry, from April, 1919, to May, 1920, when he was posted to H.Q., Inland Area, for Personnel Staff Duties (discipline, awards, etc.). In October, 1925, he was appointed to command No. 99 (Bombing) Squadron.

He was promoted Wing Commander in January, 1927.

Danger Areas.

Air Ministry *Notice to Airmen* No. 71 of 1927 states :—

With reference to paragraph 72 (2), p. 28, of the Air Pilot, cases have recently occurred of aircraft flying over the Hythe Danger Area. The attention of all pilots is drawn to the necessity of avoiding this area, owing to the extreme danger caused by the height attained by projectiles, and to the fact that kites are flown, the cables of which are not marked and are not visible from the air.

Air Ministry *Notice to Airmen* No. 70 of 1927 states :—

Captive balloons will be flown at Pulham Airship Station during the period Oct. 1 to Dec. 31, 1927.

The cables of these balloons will not be marked and pilots should therefore exercise the utmost care when flying in the vicinity.

No. 18 Squadron R.A.F. & R.F.C. Re-union.

The Sixth Annual Re-Union and Dinner of No. 18 Squadron, R.A.F. and R.F.C. Old Comrades' Association, will be held on Oct. 22 at the Three Nuns Hotel, Aldgate, at 6 p.m.

Application for tickets (5s. 6d. each) should be made as soon as possible to J. Fuller, 53, Berkhampsted Avenue, Wembley, who will also arrange to book accommodation for anyone who wants to stay overnight.

Esprit de Station.

The following protest has been received from Egypt :—

Re the remarks in your issue of Aug. 17 just to hand about the machines, etc., at No. 2 F.T.S.

Has the writer never heard of No. 4 F.T.S., Abu Sueir? Here, unmolested by any but the best influences, you will find the keenest officers and airmen in the whole World. The machines never fail to fly, the pupils count it a personal insult to their self-respect if they are not 100 per cent. efficient, and the Station generally hums with the best forms of activity throughout the year.

"Spit and polish" is not noticeable because the whole place is uniformly efficient, and that is the general impression. I don't know "what is wrong with the Air Force," but I do know that 4 F.T.S. is "100 per cent. all right," including the engineering side.

(Signed) "Araba."

"Air Force Songs and Verses."

Copies of "Air Force Songs and Verses," a collection of some of the songs sung by the Flying Services during the War 1914-18, are still available from the offices of the R.A.F. Memorial Fund, 7, Iddesleigh House, Caxton Street, S.W.1.

The entire profits from the sale of this book go to the R.A.F. Memorial Fund, as the expenses of publication have been provided by a private individual.

"Air Force Songs and Verses," which includes *Cinquante-Quatre*, the Songs of 54 Squadron, 1s 2s. a copy.

THE SCHNEIDER TROPHY CONTEST.

The steamer *Elworth* carrying some of the machines, spare parts, and accessories of the British machines entered for the Schneider Trophy Contest, arrived at Venice on Aug. 30. The machines were unloaded under the supervision of General Andreani representing the Italian Air Ministry.

The Times correspondent in New York, in a message dated Aug. 31 states :—

Although it is uncertain yet whether the United States is competing in the Schneider Cup Race this year, a suitable machine has been built and has been flown, the only question being whether sufficient time remains for further tests and for arrival in Venice by the date of the contest.

The construction of the machine—a *monoplane, built by private contributions and fitted with the new 1,250 h.p. 24-cylinder Packard engine—and the tests were delayed by bad weather. An effort was made to induce the Italians to postpone the date of the race, but without success. In view of the limited time available, the National Aeronautical Association has approached the Government with a request for a cruiser to transport the machine to Venice, as a merchant vessel would be too slow. An official reply is still awaited. Lieut. A. J. Williams, U.S. Navy, who is in charge of the machine, is unofficially reported to have attained a speed of 275 m.p.h. in a practice flight, but official tests have still to be made.

[* The machine is in fact a biplane built by the Kirkham Products Co. to the designs of Messrs. Booth and Thurston.—Ed., The Aeroplane.]

The President of the U.S.A. has authorised the use of the cruiser *Trenton* to carry Lt. Williams and his machine to Venice.

The Secretary of the Royal Aero Club states that the organisation of the British Challenge is in the hands of a Committee appointed by the Royal Aero Club, presided over by Air Vice-Marshal F. R. Scarlett, and composed of representatives of the Air Ministry, Royal Aero Club, and the competing aircraft manufacturers.

Reduced return fares to and from Venice can be obtained at the Italian State Railways, 16, Waterloo Place, Regent Street, London, S.W.1, or at Speedhire Services Ltd., 27, Regent Street, S.W.1. These are approximately : First Class, £14 16s.; Second Class, £10 18s.

The Hotel Royal Danieli, Venice, will reserve single rooms for members of the Royal Aero Club from 40 to 50 lire per night.

For those making the journey by air, the Royal Aero Club has been advised that the aerodrome at Venice is *San Nicolo* on the Lido, which lies east of Venice. Seaplanes should alight at *St. Andrea*, just north of the Lido.

Carnets for passing aeroplanes through the Customs will be issued by the Royal Aero Club, to whom early application should be made.

A DESERVED DISTINCTION.

His many friends in England will be glad to hear that Major Don Diego Aracena, of the Chilean Army, has been created a Commander of the Most Excellent Order of the British Empire by His Majesty the King.

To Major Aracena, who is one of the most brilliant officers of the Chilean Army, belongs very largely the credit for the present high state of efficiency of the Chilean Army Air Service. Major Aracena was closely associated with Major F. P. Scott, who is now in charge of the export business of A. V. Roe and Co., Ltd., when Major Scott undertook shortly after the end of the War 1914-18 to train the Chilean Army aviators according to the best British Gosport methods at the Military Aviation School at El Bosque.

Major Aracena himself soon became a very expert pilot, and several years ago (accompanied by Mr. Seabrook, who went out with Major Scott as chief engineer, and has remained in Chile ever since, much to the benefit of Chilean aviation and of British aircraft trade) he flew in a De Havilland 9 from Santiago over the Andes to Buenos Ayres, and thence up the east of South America to Rio de Janeiro.

This in fact is one of the most remarkable flights in the history of aviation, and, considering the advance in aircraft and aero-engine design in these days, the risk involved and the skill and courage necessary to its success make that flight worthy to rank with any of the great World flights of recent years.

Major Aracena was the Chilean Military Air Attaché in London for some time, and during that period he specialised in the study of the organisation of air forces. While in London he was very popular with everybody whom he met, and his return to Chile was greatly regretted.

To the good technical judgment of Major Aracena is due the fact that the Chilean Army Air Service is to-day largely equipped with British machines. The Bristol Lucifer-engined school machine is used for all the early training, and the Vickers single-seat monoplane fighter, on improved Wibault lines, with the Bristol Jupiter Mark VI. engine, is the standard fighting machine in Chile.

CANADIAN PREFERENCE AGAIN.

Flg. Off. Thomas Shields, Royal Canadian Air Force, recently made a flight of 952 miles, from Winnipeg to High River, Alberta, in 8 hours 20 minutes, on a Huff Daland with the inevitable Wright Whirlwind engine. A Canadian paper states that the machine was sent to High River to test its adequacy for mountain flying.

Another warning for the British Aircraft Trade. Who can blame Canada for not "Buying British" when we do not offer them machines which meet Canadian needs?

A FRENCH HEIGHT RECORD.

On August 29 M. Callizo, on a Spad 61 (450 h.p. Lorraine-Dietrich engine and Rateau supercharger), claimed to have ascended to a height of 13,000 metres (42,650 feet) and to have beaten the previous World's Record of 12,442 metres made by himself on August 23, 1926.

It appears that some days prior to the attempt M. Callizo had obtained the official barograph and had drawn on the chart-roll his projected height curve in invisible ink. And on the appointed day, arrayed for his flight into the "great unknown," he taxied out to the far side of the aerodrome well away from prying eyes and "fixed" his barograph, in the American as well as the photographic sense, before taking off.

He took off at 16.00 hours, and at 19.45 hours made a bad landing, smashing the under-carriage and his starboard wing, giving fatigue as an excuse.

Nevertheless, M. Callizo's activities have been suspected for some time, and in connection with the latest "attempt" the chief mechanic of the Bleriot company had, for some days prior to the projected flight, daily secreted a sealed barograph in the machine. This barograph was intact after the brusque descent and showed an altitude of only 4,000 metres.

On September 5 the Sports Committee of the Aero Club de France met to consider what action should be taken with regard to this detestable action. After hearing M. Callizo, the Committee decided, in addition to ignoring the "record" claim, to expunge his two previous height records from the French list of records, to disqualify him permanently from the Aero Club, and to request the F.A.I. to disregard any records attributed to him.

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ROLLS-ROYCE AERO ENGINES in a Handley-Page aeroplane flew from **ENGLAND** *to* **INDIA** *in* 1919.

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ROLLS-ROYCE AERO ENGINES in a Vickers-Vimy aeroplane flew from **ENGLAND** *to* **SOUTH AFRICA** *in* 1920.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew across the **SOUTH ATLANTIC** *in* 1922.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew **round AUSTRALIA** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Fokker monoplane flew from **HOLLAND** *to the* **EAST INDIES** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

ROLLS-ROYCE AERO ENGINES in Dornier-Wal flying boats flew from **MOROCCO** *to* **SPANISH WEST AFRICA** *in* 1926.

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THE TRANS-ATLANTIC ATTEMPT.

On August 31 at 07.30 hours a Fokker F. VII. monoplane with a Bristol Jupiter Mark VI. engine left the R.A.F. Aerodrome at Upavon for Ottawa, Canada. The crew consisted of Sq. Ldr. F. F. Minchin, C.B.E., D.S.O., M.C., Mr. Leslie Hamilton, M.B.E., D.F.C., and the Princess Lowenstein-Wertheim.

Before the start the machine was blessed by the Roman Catholic Bishop of Cardiff, assisted by priests from Tidworth and Devizes.

The machine was reported by Capt. Harvey, of Bargy Castle, County Wexford, as crossing the Irish Coast about 10.00 hours, and it was reported again as passing over Thurles, County Tipperary, at 10.40 hours. It was next reported as crossing the coast of Connemara, County Galway, at about midday. Since then nothing authentic has been heard.

The steamship *Josiah Mason* reported having seen an aeroplane at 21.44 hours on the night of August 31, and the position of the ship at the time would agree with the known speed of the Fokker monoplane.

As no further news has been received, the assumption is that the machine came down in the Atlantic and that the crew have been lost. But it will be well to wait a week or so before giving up hope of definite information.

MR. COURTNEY'S VOYAGE.

Mr. Frank T. Courtney, who has been waiting with a Dornier Wal flying-boat at Calshot ever since June 28 in the hopes of finding an East wind to take him to America, flew to Cattewater Seaplane Station, Plymouth, on Sept. 2.

At 06.25 hours on Sept. 3 he started for New York with the intention of flying by way of the Azores and Newfoundland.

He was accompanied by Flt. Lt. Downer, R.A.F., as navigator and Mr. R. F. Little as mechanic. With him there also went Mr. E. L. Hosmer, the son of Mr. Charles Rudolph Hosmer, a banker of Montreal.

Some time after the start Mr. Courtney sent out word by his Marconi aircraft set that all was going well. He came down in Corunña Harbour in Spain at 17.30 hours owing to low clouds and a strong West wind.

At 14.00 hours, when well on the way between Spain and the Azores, Mr. Courtney decided to return to Spain because he was running short of petrol and a head wind lowered his speed over the water so much that there seemed a prospect of all his petrol being used before he reached the Azores.

Everybody will sympathise with Mr. Courtney in the troubles that he has had. When he began his project for flying the Atlantic he was assured that the Dornier Wal had a speed and a petrol capacity which would make it possible for him to get across to Newfoundland non-stop in ordinary weather with his Napier engines running at their usual cruising speed and petrol consumption. But when he came to test the machine in the flight from Lake Constance to Calshot he found that the machine had not the speed necessary to get across the Atlantic on the calculated petrol consumption unless he could find an East wind all the way across,—and that only happens about one day in the year.

When he tested her at Calshot he found that she would not get off the water with the load of petrol necessary to get him across the Atlantic direct at the speed needed. And if he cut down his engine power, so as to reduce the consumption to what the machine would lift, the speed of the machine would have been too low to get him across the Atlantic with the petrol carried.

He tried every means of lightening the ship and of increasing her speed, but without getting the extra lift or pace. Consequently he was faced with the alternative scheme of going by way of the Azores. Even then he had to wait for a North-East wind to take him there and that, as the account shows, failed him.

One has the greatest respect for Mr. Courtney's ability as a pilot and as a critic of aircraft designs, and one cannot help thinking that he would have done a great deal better to have let other people tackle the Atlantic while he devoted his genius to the improvement of British aircraft.—C. G. G.

NORTH TO SOUTH AMERICA.

On Aug. 25 Mr. Paul Redfern left Elyun Island, Georgia, on a Stinson monoplane, in an attempt to fly to Rio de Janeiro.

He was sighted later the same day, 300 miles east of the Bahamas, at 2,000 ft., but has not been seen or heard of since.

A FRENCH ATLANTIC ATTEMPT.

On Sept. 2, MM. Givon and Corbu, the former of whom replaced M. Drouhin when he left the Farman company to join Mr. Levine, left Le Bourget on the Farman *Oiseau Bleu* at 06.28 hours on their projected flight to New York.

They returned again at 10.02 hours, having been defeated by low clouds and mist. The machine circled the aerodrome for over an hour jettisoning its 2,000 gallons of petrol before landing.

THE ROUND-THE-WORLD FLIGHT.

As was reported in the last issue of The Aeroplane, Mr. W. S. Brock and Mr. E. F. Schlee flew from Harbour Grace, Newfoundland, to Croydon on a Stinson monoplane (Wright Whirlwind engine) on August 27-28, on the first stage of their flight round the world.

This flight has been planned for nearly a year by Mr. Schlee, President of the Wayco Air Service, and Mr. Brock, an air mail pilot, who are attempting to fly round the world in less than 28 days, the existing "record."

Unlike most flights of this nature, all preparations have been made unknown of the world at large, so that at first it was regarded as a spontaneous effort to be in the fashion. Fuel supplies have been laid out all along the route, a spare engine has been sent to Tokyo, and every assistance has been given to the fliers by the U.S. Air Corps.

On August 29 they flew from Croydon to Munich.

On August 30 they reached Belgrade after a flight of 5½ hours from Munich

On August 31 they left Belgrade at 04.30 hours and arrived at Constantinople at 11.45 hours.

On September 2 they flew to Aleppo and Baghdad, after being held up in Constantinople for 24 hours to comply with the necessary formalities for obtaining permission to fly over Turkish territory. They landed at Baghdad after dark.

On September 3 they reached Bundar Abbas after a ten-hours' flight from Baghdad.

On September 4 they arrived at Karachi.

On September 5 they flew from Karachi to Allahabad in just under nine hours.

Their route will continue by way of Calcutta, Rangoon, Here and Manila to Tokyo.

From Tokyo they will fly to Sand Island in the Midway Island Group in the Pacific (2,480 miles), thence to Honolulu (1,440 miles), and finally to San Francisco (2,400 miles.) [The U.S. cannot be very proud of the Midway Islands, as they are hard to find on the map and there is no fox-trot song about them.—Ed.]

The last stage of their flight across the States will be by way of Cheyenne, Chicago, Detroit, to Harbour Grace, making a total distance of 22,067 miles.

The machine is equipped with tanks to hold 270 gallons of fuel, but for the long over-water flight 400 gallons will be carried, 130 gallons in five-gallon cans, which will be thrown overboard when empty. The total loaded weight of the machine is 5,050 lbs.

Three compasses are fitted, a Pioneer Earth Inductor compass, a magnetic compass, and a British aperiodic compass. Maps and other information concerning the route and flying conditions are being acquired on the way.

BY MOTH TO SOUTH AFRICA.

Lieutenant R. R. Bentley of the South African Air Force left Stag Lane Aerodrome at 10.30 on Sept. 1 in an attempt to fly to the Cape, *via* Malta and Egypt, on a De Havilland Moth (27-90 h.p. Cirrus engine). He will follow the route taken by previous South African flights.

Mr. Bentley arrived at Lyon on Sept. 2.

LONDONT—LONDENG.

On Sept. 5 Mr. T. B. Tully and Mr. J. V. Metcalf left London, Ont., and arrived at Harbour Grace, Newfoundland, on their Stinson monoplane the *Sir John Carling*, on the first stage of their projected flight to London, Eng.

This was their third attempt to get away, the previous two having been interrupted by bad weather.

HOPE SPRINGS ETERNAL.

According to *The City Guardian* of Sydney, dated June 20, Wing Cdr. Wackett, Royal Australian Air Force, is of the opinion that the new Widgeon Mark II which he has designed, and has had built by the R.A.A.F. at Point Cook, can fly to England in less than a fortnight.

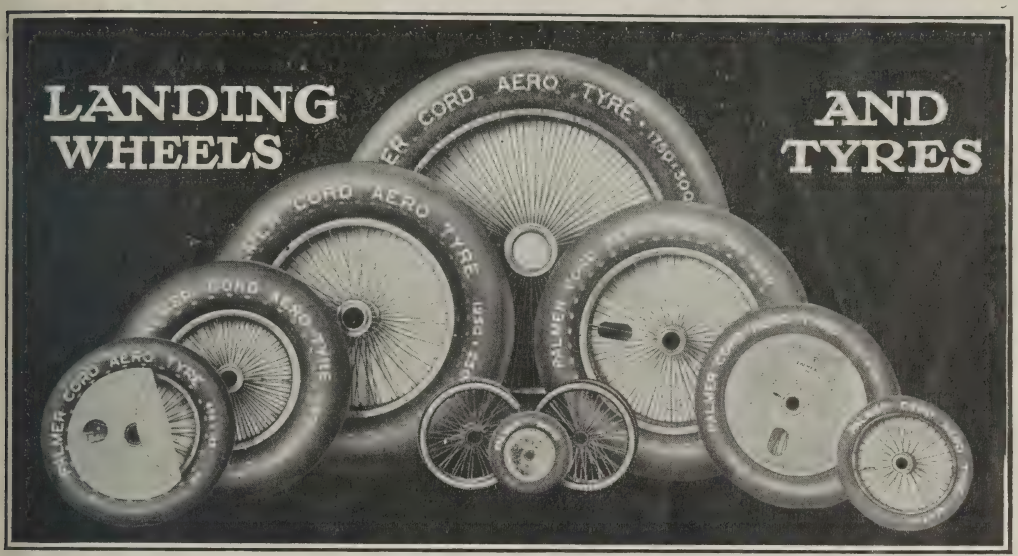
Widgeon No. 1 was finished about two years ago. On its first appearance it turned itself into a submarine, and after rebuilding it achieved nothing except a few flights over and round Sydney. The same paper states that Wing Cdr. Wackett is eager to attempt the Australia—New Zealand flight.

GOOD HEALTH.

To dry America, success has the effect of mild intoxication. Under the influence of success the American Immigration Authorities have intimated that any aviator leaving Le Bourget or any other aerodrome in France with the intention of landing in New York must have a health certificate in due form.

The best commentary on this is supplied by M. Dieudonné Costes, who is waiting to leave Paris on a Breguet XIX for New York. He says, "I am not going to take one. The best health certificate possible is to be able to hold a joystick over the Atlantic for forty hours. If I cross the ocean I am perfectly willing to be fined by the American authorities, provided, however, that they do not keep me seven years without knowing my fate."

PALMER



STANDARD SIZES.

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
700×100	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×230	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

Wheels Nos. 161, 162, 163 and 211 are of stronger type than the other wheels for 800 × 150 tyres. †*Wheel No. 169 is fitted with Ball Bearings.*
Grease gun equipment is now a standard fitting on all wheels.

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AMSTERDAM—BATAVIA AND BACK IN 27 DAYS.

Owing to matters of immediate topical interest THE AEROPLANE has not as yet had a chance of publishing a connected account of the magnificent flight made in June and July by Mr. Geysendorffer and Mr. Scholte with Mr. van Lear Black as passenger in a Fokker F.VII with a Bristol Jupiter engine. The story, as kindly supplied by the K.L.M. firm is as follows :—

The flights made since Mar. 1 by Mr. van Lear Black, the well-known proprietor of *The Baltimore Sun*, on board a K.L.M. airline Fokker F.VIIa, with a Jupiter IV (440 h.p.), have been mentioned before in this paper. All these flights, covering the greater part of Europe, were done with the plane H-NADP except for only one or two of the smaller flights. The total distance covered before the plane left for Batavia amounted to 25,000 kms. (15,625 miles), of which on several occasions non-stops of 1,000 miles were made.

H-NADP is an absolutely normal service machine of the K.L.M. (Royal Dutch Airline) and flew on the regular lines when not in use by Mr. van Lear Black. The fuel-capacity of this particular Fokker VIIa eight-seater monoplane was slightly increased to be able to cover about 1,250 miles at a stretch.

The plan for the Amsterdam—Batavia—and—back flight was only made on May 30 and the flight had to be completed before July 23 as Mr. van Lear Black had to be back by that time at Amsterdam.

The complete organisation of the flight was done before June 15 by members of the K.L.M. staff. The aeroplane was taken out of the regular service on June 13 and brought over to the K.L.M. shops at Rotterdam to be fitted with a freshly-overhauled engine. Also, an auxiliary oil-cooler was installed, and a set of new Palladium wheels and tyres was fitted. Finally every part of the plane was inspected, greased, etc., and the interior of the cabin furnished with four easy-chairs and a small table instead of the regular outfit.

A selection of spare parts and tools was stowed in one of the luggage compartments and after a test flight on the evening of the 13th, H-NADP started for London on the 14th to fetch Mr. van Lear Black and some of his friends, who wanted to see him off from Amsterdam at 8.30 a.m. on the 15th.

From the moment of its departure, the K.L.M. machine fulfilled its task with the regularity of clockwork.

After a journey of 16 days, of which one was spent at Constantinople, where the Authorities opposed the departure, being the Turkish sabbath, and two at Baghdad (after a slight trouble with the lubricating system) and after about 86 actual flying hours, the H-NADP landed safely at the Aerodrome Tjililitan, near Batavia. So the whole outward journey was completed in 13 flying days.

It is interesting to compare this trip with the flight of Mr. van der Hoop, who in 1924 accomplished the same aerial journey with a Fokker F.VII, Rolls-Royce Eagle. He took 22 days and 127½ hours. The American World flyers in 1924, who flew in the opposite direction, took as many hours (only to cover the distance from Bangkok to Budapest) as did Mr. Geysendorffer on the H-NADP to make the whole flight from Amsterdam to Batavia. It took them 17 flying days.

The organisation of Mr. van der Hoop's and the American flight took over a year and gave a tremendous lot of trouble, while, as mentioned above, the trip of Mr. van Lear Black with the K.L.M. plane took only a fortnight to organise.

The accompanying list gives the daily stages, of which those between Baghdad and Bunder Abbas and between Karachi and Allahabad, each of which was nearly 1,000 miles, were the longest non-stops. On the first mentioned stage the flying time was 9 hours. During the whole journey to Batavia an average speed of 104.4 miles an hour was maintained.

This must be recognised as a fine performance, especially when one takes into consideration that the plane was quite a normal commercial machine, weighing just over 3,600 kgs. with five people on board.

Mr. van Lear Black wanted to stay a week in Java and decided to return to Amsterdam on July 6. During that week Mr. Geysendorffer took the plane over to the Military Air Service depot of the Royal Dutch Army at Bandoeng to have it overhauled, which only took two days.

The return flight followed nearly the same route. At Bangkok H-NADP was delayed for one day as it was not allowed to land at Rangoon, owing to the fact that races were being held on the flying ground.

Between Calcutta and Allahabad an average speed of 128 miles per hour was reached, and on the next day, flying non-stop to Karachi, the distance of 1,700 kms. (1,065 miles) was covered in 8¼ hours.

On the outward as well as on the homeward journey the aeroplane suffered difficulties from the West Monsoon, which however did not interfere with its regularity.

It was a different thing altogether with the very severe duststorms with which the H-NADP met after Bunder Abbas. Mr. van Lear Black had to wait at Basra for four days until the gale, causing tremendous duststorms, had gone off.

On July 20, after a landing at Baghdad, where important telegrams were waiting for the crew, Aleppo was reached. On the 21st the flight was continued to Constantinople. And on the 22nd the longest trip was made, namely as far as Nürnberg, a distance of 2,200 kms., in 13¼ hours.

On July 23, as was stipulated beforehand, H-NADP landed at Schiphol Air Port at 16.48 hrs.

A magnificent reception, at which several Dutch Ministers, Sir Sefton Brancker and the U.S. Minister at the Dutch Court were present, was accorded to the pilots, the engineer and the passengers. And Queen Whilhelmina most graciously bestowed on them the Knight's Cross of the Order of Oranje-Nassau.

The total homeward journey was completed in 91 hours 22 minutes actual flying time, a distance of 14,975 km. being covered, which gives an average speed of 164.13 kms. (101.9 miles) per hour.

During the flight every possible help was received from the foreign air authorities, particularly in British India and Siam.

The petrol distribution was organised in faultless manner by the Shell Co., and the sales organisation of Messrs. Wakefield had taken care of the oil supply. By this efficient co-operation, a real beautiful result was reached.

OUTWARD FLIGHT.

Amsterdam—Budapest, June 15, 1,350 kms., 7 hrs. 34 mins.; Budapest—Constantinople, June 16, 1,460 kms., 6 hrs. 55 mins.

Constantinople—Aleppo, June 18, 1,070 kms., 6 hrs. 13 mins.; Aleppo—Baghdad, June 19, 800 kms., 4 hrs. 55 mins.; Baghdad—Bunder Abbas, June 22, 1,590 kms., 8 hrs. 55 mins.; Bunder Abbas—Karachi, June 23, 1,180 kms., 7 hrs. 20 mins.

Karachi—Allahabad, June 24, 1,500 kms , 8 hrs. 45 mins.; Allahabad—Calcutta, June 25, 770 kms., 4 hrs. 50 mins.; Calcutta—Rangoon, June 26, 1,350 kms., 7 hrs. 40 mins

Rangoon—Bangkok, June 27, 790 kms., 4 hrs. 40 mins.; Bangkok—Singora, June 28, 865 kms., 5 hrs. 30 mins.; Singora—Singapore, June 29, 750 kms., 5 hrs. 35 mins.

Singapore—Muntok, June 30, 500 kms., 3 hrs. 25 mins.; Muntok—Batavia, June 30, 700 kms., 4 hrs. 10 mins.

Totals, 13 days, 14,675 kms., 86 hrs. 27 mins. Average speed, 169.74 kms. (104.4 miles) per hour.

HOMEWARD FLIGHT.

Batavia—Medan, July 6, 1,500 kms., 9 hrs. 05 mins.; Medan—Singora, July 7, 690 kms., 4 hrs. 30 mins.; Singora—Bankok, July 8, 865 kms., 5 hrs.; Bangkok—Rangoon, July 10, 790 kms., 5 hrs. 45 mins.

Rangoon—Calcutta, July 11, 1,350 kms , 7 hrs. 55 mins.; Calcutta—Allahabad, July 12, 770 kms., 4 hrs.; Allahabad—Karachi, July 13, 1,700 kms., 8 hrs. 35 mins.

Karachi—Bunder Abbas, July 14, 1,180 kms., 8 hrs. 10 mins.; Bunder Abbas—Bunder Dilam, July 15, 1,180 kms., 8 hrs. 35 mins.; Bunder Dilam—Basra, July 16, 200 kms., 2 hrs.; Basra—Baghdad, July 20, 530 kms., 3 hrs 50 mins.; Baghdad—Aleppo, July 20, 800 kms., 5 hrs. 10 mins.; Aleppo—Constantinople, July 21, 1,070 kms., 7 hrs.

Constantinople—Budapest, July 22, 1,460 kms., 8 hrs. 50 mins.; Budapest—Nürnberg, July 22, 740 kms., 4 hrs. 15 mins.; Nürnberg—Amsterdam, July 23, 610 kms., 4 hrs. 20 mins.

Totals, 14 days, 15,435 kms., 97 hrs. Average speed, 159.12 kms. (98.9 miles) per hour.

For the round trip,—Total Distance Flown, 30,110 kms. Total Flying Time, 183 hrs. 27 mins. Total Average Speed, 164.13 kms. (101.9 miles) per hour.

THE COPENHAGEN FLYING MEETING.

On Sept. 4 an International Air Meeting was held at Copenhagen in connection with the Aero Show which has been held there.

In wonderfully fine weather, a crowd estimated at 100,000 was present at 14.00 hours when the Meeting started with a parade of 32 machines from Denmark, Great Britain, Sweden, France and Germany, before H.M. the King of Denmark, the Crown Prince and many other members of the Royal House.

Great Britain was represented by Mr. Hubert Broad, Lord Carbery, the Vicomte de Sibour (son-in-law of Mr. Gordon Selfridge), Mr. Maurice Burton, all on D.H. Moths, and Mr. Dudley Watt on an Avro Avian.

Mr. Maurice Burton, the only private owner of a Moth seaplane, had, accompanied by Mr. Lancaster Parker, flown across the North Sea and up the Dutch Coast to Norderney and by way of the Kiel Canal to Copenhagen in three days. This flight, made against adverse winds, is the first long flight made by a Moth seaplane. Unfortunately in a test flight on the morning of Sept. 4 he attempted to alight in too shallow water and damaged his floats.

In a handicap speed competition for small aircraft, Mr. Larsen, a Dane flying a Klemm-Daimler monoplane with a 20 h.p. Mercedes engine, was first, with Mr. Broad, Lord Carbery and the Vicomte de Sibour, second, third and fourth, on Moths. Mr. Larsen, by virtue of his small engine, was given a very liberal handicap, of which he made full use.

In a height competition for small aircraft, Mr. Broad (Moth) was first with 3,500 metres, and Mr. Dudley Watt (Avian) second with 2,700 m.

In a stunting competition Mr. Broad (Moth) tied with M. Fronval, the French "*champion de virtuosité*," for first place, beating many other competitors on high-powered machines.

In this contest Mr. Erlind, a Danish military pilot, lost control at 150 feet and crashed. He escaped with a broken leg and some minor injuries but this accident made a great impression on the spectators, many of whom left the aerodrome being unaccustomed to aircraft accidents.

At the banquet given in the evening Mr. Broad collected five cups and trophies. By the unfortunate accident to the Moth seaplane, which he was going to fly in the seaplane race, he was probably robbed of a sixth.

A CHILEAN VISITOR.

An interesting visitor to THE AEROPLANE recently has been Mr. Raul Hudson, the son of Mr. Julius Hudson, of Santiago, who is the representative in Chile of the Bristol Company. Mr. Hudson, though a Chilean by nationality, is of English descent, and, like so many Chileans, very English in sympathies. He is himself a pilot, and has had considerable experience in the air.

At present he and his wife are spending a holiday in England, and Mr. Hudson, who is in fact visiting England for the first time, is familiarising himself with all our aeronautical activities. One bespeaks for him a kindly welcome from the British Aircraft Trade and from the aeronautical community in general.

THE WESTLAND WIDGEON



THE IDEAL LIGHT AEROPLANE

KING'S CUP.

Westland Widgeon III, **2nd** & **5th.**

NOTTINGHAM FLYING MEETING.—PELHAM STAKES.

Westland Widgeon (Standard Machine with Cirrus Engine), **FIRST.**

GROSVENOR CUP.

Westland Widgeon (Genet Engine), **3rd.**

THE EVIDENCE OF THE KING'S CUP RACE.—

11 Light Aeroplanes started. 3 only completed the course. Of these **2 Westland Widgeons started** and **2 completed the course,** and in order of average speeds over the course their positions were **1st** and **2nd.**
The same machines were the ones which took part in the PELHAM STAKES and the GROSVENOR CUP.

CONCLUSION.—

The Westland Widgeon III is unrivalled for speed and reliability under the most adverse weather conditions.

NOTE THESE POINTS :—

1. Very strongly built and substantial construction for standing up to hard work.
2. Stout under-carriage, steel springs and Ferodo dampers.
3. Wings braced with struts; no rigging to need adjustment; cannot get out of truth.
4. Excellent view for both pilot and passenger owing to parasol construction.
5. All machines furnished with aerobatic certificate of airworthiness for total weight of 1,400 lb. allowing for passenger, pilot and luggage.
6. Can be fitted with dual control.
7. Petrol consumption—20 miles per gallon.
8. Wings fold for garaging in small space.

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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Sept. 4.

Flying Time 53 hr. 15 min. *Instruction* 26 hr. 45 min. *Soloists* 22 hr. 55 min. *Passengers* 3 hr. 35 min.

Instruction.—With Mr. F. G. M. Sparks—H. J. Greenland, J. H. Veasey, W. Hay, L. W. Gibbens, R. G. Whalley, G. W. Hall, G. Black, C. N. Brand, L. Rowson, Lord Carlow. *With Mr. S. L. F. St. Barbe*—R. G. Whalley, J. H. Percy, L. Martin, R. P. S. Taylor, A. S. Mulder, R. B. Tucker, G. Black, J. H. Veasey, T. C. Elford, H. R. Presland, L. W. Gibbens, E. K. Broderick, Dr. Cook, A. S. Richardson, G. W. Hall, J. Bickley, P. Ward, J. E. S. Sawyer, J. W. Harrison, J. H. Percy, H. S. Greenland, Miss Fletcher, E. K. Blyth. *Soloists.*—W. Hay, C. E. Murrell, R. Malcolm, E. V. Wright, J. M. McClure, L. W. Gibbens, A. S. Mulder, R. B. Tucker, A. F. Wallace, G. C. Bonner, G. Black, J. H. Veasey, A. R. Ogston, Major H. Petre, Major K. M. Beaumont, G. Terrell, O. J. Tapper, G. H. Craig. *Passengers.—With Mr. S. L. F. St. Barbe*—E. V. Walker, J. D. Lloyd, J. P. Edinger *With Mr. A. F. Wallace*—R. Avery. *With Mr. F. G. M. Sparks*—A. Fowler. *With Mr. W. J. Hay*—R. Hayes. *With Mr. G. Terrell*—R. Hayes.

On Friday, Sept. 22, L. W. Gibbens made the qualifying tests for his Aviator's Certificate.

The Club's Telephone No. at Stag Lane is now 6367 Collindale.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Sept. 3.

Flying Time 50 hr. 5 min. *Instruction* 12 hr. 45 min. *Soloists* 26 hr. 40 min. *Passengers* 8 hr. 30 min. *Test* 2 hr. 10 min.

Instruction.—With Mr. Brown.—Messrs. Brooking, Sykes, Allott, Harper, Davison, Riley, Schofield, Caldecott, Tweedale, Parker, Ruddy, Crosthwaite, Fisher, Cuttle, Browning, Kingsley, Cohen, F. Scholes. *Soloists (under instruction).*—Messrs. Rowley, Hollindrake, Fisher, Anderson, Harber, Caldecott, Miss Bacrlein. *"A" Pilots.*—Messrs. Ward, Costa, Crosthwaite, Hardy, Chapman, Gattrell, Twemlow, Davidson, Cantrill, Williams, Goodfellow, Nelson, Mrs. Lynn. *Passengers.—With Mr. Brown*—Messrs. Chapman and Lowe; the Misses Jenkinson and Scholfield; and Mrs. Williams. *With Mr. Cantrill*—Mrs. Sykes, Mr. Goodfellow. *With Mr. Lacayo*—Miss Goodchild, Mr. Mills. *With Mr. Leeming*—Mr. Downes-Shaw. *With Mr. Costa*—Messrs. Anderson and Rowley. *With Mr. Williams*—Messrs. Eastwood and Allott. *With Mr. Twemlow*—Messrs. Rowley and Allott. *With Mr. Nelson*—Miss Armstrong.

Three machines in service and a week of fine weather—or what passes for fine weather up here. It sounds too good to be true, but it's a fact. Poor old I.V, who has come back to the fold, is not so young as she used to be. Like a lady of uncertain age she looks well enough with her paint on, but get her on the move and she gives herself away.

Messrs. Hollindrake and Anderson have passed the tests for their R.Ae.C. certificates. The former, having taken delivery of his new Avro Avian, proceeded to Scotland, where he is said to have sold Avians to the cautious inhabitants in large quantities, thus proving that nothing is impossible. Like the famous Mr. Levine—*"Potest quia posse videtur."* Attaboy!

The Newcastle-upon-Tyne Aero Club.

[Sec.: Alex. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Sept. 4.

Flying Time 35 hr. 55 min. *Instruction* 9 hr. 20 min. *Soloists* 6 hr. 10 min. *Passengers* 19 hr. 30 min. *Tests* 55 min.

Instruction.—With Mr. Parkinson—Messrs. Sadler, Rasmussen, Glenny, L. Middleton, P. L. Lawson, Horne, Griffiths. *Soloists.—Under instruction*—Messrs. Wardill, Rasmussen, L. Middleton, Wilson, Shaw. *"A" Pilots.*—Messrs. R. N. Thompson, Turnbull, Mrs. Heslop, Mr. Elmes. *Passengers.—With Mr. N. S. Todd*—Mr. McGregor. *With Miss Leathart*—Miss Slade. *With Mr. Maxwell*—Mr. Aitchison, Mr. A. Bell. *With Mr. R. N. Thompson*—Mr. P. L. Lawson. *With Mr. Mathews*—Mr. White. *With Mr. Heppell*—Mr. Ferguson. *With Mr. Baxter Ellis*—Mr. R. G. Lawson. *With Mr. J. Stawart*—Miss Stawart. *With Mr. A. Bell*—Mr. J. Bell.

Mr. Lawrence M. Middleton did his first solo on Saturday, making a polished flight and perfect landing. Mr. Middleton is only fourteen years old and is believed to be the youngest soloist in the country.

On the same day Mr. C. E. Shaw did his height tests in masterly style.

The Club was pleased to receive a visit from Mr. Downes-Shaw, Chairman of the Bristol and Wessex Club, who appeared to be favourably impressed with what he saw at Cramlington.

LX was back on service on Saturday evening and contributed her share to the total of 14 hr. 30 min. for Sunday.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, Sherburn-in-Elmet Aerodrome.]

Report for week ending Sept. 3.

Flying Time 18 hr. 50 min. *Instruction* 10 hr. *Soloists* 6 hr. *Passengers* 2 hr. 50 min.

Instruction.—With Mr. Beck—Messrs. Humphries, Bailey, Dujardin, Mason, Swift, Tattersall, Crouther, Ten Bos, Hirst, Ambler. *Soloists—Under instruction*—Messrs. Batcock, Lister, Birch, Weyman, Rhodes. *Passengers.—With Mr. Beck*—Miss Springmann, Miss Crawford.

This week saw two more of our Members go solo, Messrs. Lister and Rhodes. Mr. Lister is an ex-R.A.F. pilot who has just taken up flying again after a lapse of several years.

On Wednesday we had two visitors, Mr. Downes-Shaw from Bristol and Dr. Merton from London, who had come to Leeds to meet the British Scientists. Mr. Beck and Mr. Downes-Shaw flew to Brough and had a look at the Bluebird.

We received our first Bluebird on Friday and it has been kept busy since, as soon as NN saw the Bluebird arriving it decided to have a rest and cracked a cylinder head.

Mr. Jack Hylton and his Band arrived here on Sunday in one of the Imperial Airway's Machines; after flying round Blackpool and Harrogate, they left on Monday morning for London again.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Sept. 3.

Flying Time 15 hr. 18 min. *Instruction.—With Mr. McDonough*—R. D. Bednell, B. Barton, A. Ellison, R. L. Brinton, N. F. Crane, Capt. J. E. Brewin, E. P. Lane. *Soloists.*—R. Cazalet, B. Barton, C. Fellowes, E. R. King, R. D. Bednell, S. H. Smith, R. L. Jackson. *Passengers.—With Mr. McDonough*—R. Darlington, J. H. Moore, S. Hall, L. F. Gundle, W. Baldwin. *With Mr. E. J. Brighton*—L. C. Wager.

We received EBLT from De Havilland's on Saturday after its annual overhaul, the machine looking like new—and an excellent tribute to the service afforded by the De Havilland Co.

On Monday Mr. Cazalet passed the flying tests for his Certificate, and on Wednesday Mr. Bednell was launched solo. During the week Mrs. Eliott Lynn on an Avian, and Mr. Davenport on a Renault Avro paid us a visit.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Sept. 4.

Flying time 32 hr. 20 min. *Instruction* 13 hr. 5 min. *Soloists* 15 hr. 35 min. *Passengers* 2 hr. 25 min.

Instruction with Mr. Thomson.—Cdr. Hunt, Lieut.-Cdr. Woodhouse, Capt. Molyneux, Capt. Bailey, Master Waite, Messrs. Sanders Clarke, Parker, Fortlage, Stanford, Wells, Whittle, Blake, Williamson, Molony, Duggan, Southcliffe, Baynes, Cripps, Kerry, Beasley, Boileau and Hancox. *Soloists under instruction.*—Messrs. R. Sanders Clarke, Pargeter, Wells, Molony, A. R. Mellor, Rumble, Whittle, Fagan, Parker and the following *"A" Pilots*:—Don Juan de la Cierva, Lt. Graham, Mr. Yeatman, Flg. Off. Southey, Messrs. S. Fry, K. P. L. Bowen, Shepherd, Lt. Oliver, R.N., Flt. Lt. Crawford, Messrs. E. Wyllie and — Ash.

On Sunday, Sept 4, we held a house warming, and a large number of members spent a very enjoyable afternoon and evening. Our



ON THE WAY TO THE FRONT.—Fairey-Reed Airscrews being packed for the Schneider Challengers.

VICKERS AIRCRAFT Limited

Accessories and Armament of all descriptions.

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Two-seater General Purposes Military Landplane for Reconnaissance, Fighting or Bombing (450 h.p. Napier "Lion" Engine).



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Two-seater Army Co-operation Reconnaissance Landplane (Bristol "Jupiter" Engine).

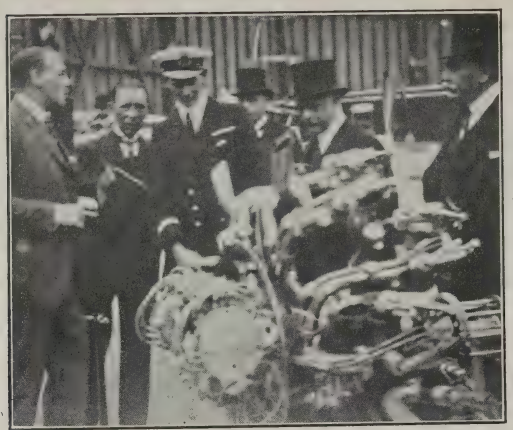
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ROYAL INTEREST.—The Crown Prince of Denmark inspecting an Armstrong-Siddeley Jaguar engine at the Copenhagen Aero-Show, Mr. Bennett-Baggs (on left) and Danish Ministers in attendance.

two Moths were kept busy until dusk carrying joy-riders, over fifty passengers availing themselves of this opportunity of tasting the joys of the air. Flt. Lt. Thomson took up 20, K. P. L. Bowen 19, Don Juan de la Cierva 8 and the following pilots took one each :— Flt. Lt. Crawford, Mr. Ash, Mr. Wyllie and Lt. Oliver.

Tea was served in the lounge of the club-house, and afterwards the room was cleared and an impromptu dance took place to the music provided by our latest acquisition, an H.M.V. cabinet gramophone. Everyone seemed very happy and the Committee were requested by the members to organise similar events at frequent intervals.

It is necessary in this connection to pay a tribute to our ground engineer, McCracken, and his assistant, Stanford. On Friday, preceding this event, the engine of G-EBOI developed serious internal troubles and it appeared that we should have only one aeroplane for our joy-riding. McCracken and Stanford set to work and carried on through two days and two nights practically without sleep to put the refractory engine into condition. This was done successfully in time to use G-EBOI on Sunday afternoon.

On Wednesday, Lt. Graham passed his qualifying tests for the "A" licence and Mr. B. Whittle made a successful first solo on Friday.—R. H. B.

The Suffolk Aeroplane Club.

[Sec. : Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Sept. 4.

Flying time 9 hr. 5 min. *Instruction.*—Dr. Jas. Sleigh, H. Billinton, N. Creasey, S. Schofield, C. N. Prentice. *Passengers.*—Miss MacCullum Swann, Mrs. Courtney Prentice, C. Hanson, F. H. Jolly, E. Dyson, T. Marriage, E. Prentice.

The Club's Blackburn Bluebird was delivered on Monday last and flying began on Wednesday. All the members are very enthusiastic and it looks as if we shall be very busy with only one machine. Several new members have been enrolled.

The Bristol and Wessex Aeroplane Club.

[Sec. : Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Sept. 3.

Flying time 19 hr. 40 min. *Instruction* 17 hr. 40 min. *Soloists* 1 hr. 5 min. *Passengers* 55 min.

Instruction with Mr. Bartlett.—Miss Miles, Messrs. The Hon. H. C. H. Bathurst, H. H. Bromham, P. Bryan, F. J. Bishop, T. H. Clarke, R. A. Hall, I. J. Inskip, R. H. C. Petters, A. E. Russell, J. H. Roberts, H. A. Tiarks. *"A" Pilots.*—Mr. R. B. Tapp. *Soloist under instruction.*—Mr. R. A. Hall. *Passengers with Mr. Bartlett.*—Miss Watson, Miss Parry, Miss Rowe, Mr. Horwood.

We are pleased to record this week our first solo flight under instruction, Mr. R. A. Hall being launched on Sept. 1 and putting up an excellent show.

Capt. McIntosh, who has been doing his petrol consumption tests at Filton for his Bristol Jupiter engine, has honoured us by becoming a member of the Club. His last visit to the Club was on Sunday prior to his departure that afternoon for Ireland. All members wish him the best of luck on his trans-Atlantic flight.

The Sydney (N.S.W.) Flying Club.

This Club has now been in existence for one year. In eleven months' operations it has trained 27 pupils for the "A" certificate, three of whom are women.

Up to the end of June, Club machines have made 4,352 flights, totalling 1,154 hours, and have carried 2,006 passengers, not including pupils on instructional flights.

During this period there has been no accident involving even minor injury to instructors or pupils and there have been only two minor mishaps which have necessitated structural repairs to the machines.

Compared with the first year's operations of the London Aeroplane Club, the Sydney Club has in 46 less flying hours trained eight more pupils—a remarkable and praiseworthy record.

They have recently inaugurated 5s. Propaganda Flights at week-ends and these have attracted to Mascot Aerodrome each week-end crowds running into thousands. And although about 150 passengers are carried by the Club, many are turned away.

On June 7, the Club's latest addition, a D.H. Moth, was christened by Mrs. G. F. Hughes, wife of the President of the Club, "Oswald Watt" in memory of the Club's late President and benefactor.

The Singapore Flying Club.

The Singapore Flying Club has rented ten thousand square feet of land from the Singapore Harbour Board and the Club is endeavouring to arrange for the use of the Yacht Club premises as a Club House.

H.E. the Governor, Sir Hugh Clifford, consented to become patron of the newly-formed Club, and Major L. W. Learmount, a member, is now in England on leave, where he has been going into the question of equipment.

The local Government are favourably considering the question of a monetary grant and as soon as this is settled the Club proposes to purchase three D.H. Moth seaplanes.

The Club has chosen a crest in the form of two wings mounted on a Malay kris over which are the letters S.F.C. The whole is mounted on a badge on which is the R.A.F. motto, "Per ardua ad astra."

The Victoria (B.C.) Aero Club.

The Victoria Aero Club has been formed in Victoria, the capital of Vancouver Island, B.C. The President is Mr. Ernest Eve, of Eve Brothers Ltd., and the Secretary is Mr. J. W. Cox.

Mr. Eve has recently been in Eastern Canada and in the States testing aeroplanes and negotiating for agencies. There is a project to bring three American machines to Vancouver to establish a Flying School, and it is proposed to link the Victoria Aero Club to this commercial venture by offering special rates to Club members.

Here seems to be a chance for our manufacturers. We can at any rate offer Canada the choice of four very good types of machines for Flying Clubs, if nothing else.

A LIGHT AEROPLANE RECORD.

The *Fédération Aéronautique Internationale* have notified the Royal Aero Club that the following World's Record has been granted :—

Light Aeroplane, Two-Seater.—The Hon. Lady Bailey on D.H. Moth (Cirrus Mark II), July 5, 1927, at Stag Lane, Edgware, altitude 5,268 metres (17,283.47 feet).

THE R.Ae.C. RACING FUND.

Mr. A. S. Butler has given £50 to the Royal Aero Club Racing Fund.

MORE GNATURAL HISTORY.

The following effusion from the head of the firm indicates that the Gnat Aero Co., of Shoreham, is still as active as ever :—

First I must get off my chest the story of the Lady and the Telescopic Tubes. In this case it was I who provoked the naïve remark that follows : Primarily the cast : A daring husband, an admiring, if somewhat apprehensive, wife and myself. The husband paid his five shillings and took his ticket and his seat and his flight. Wifie watched the machine round, and, regaining her *sang froid* as the 'bus approached terra firma once more, showed her air-mindedness by evincing an almost intelligent interest in conversation with the poor defenceless Ground Engineer.

After making several wild guesses as to the purpose of various parts, she capped all by pointing out the shock absorber covers and inquiring, "What are those black things under the engine? Oh! I see! Of course they're the pilot's feet!!!!!!"—Mind you, I have never been proud of my feet. But . . . .

I suppose you notice the lack of news in these narratives. It is awfully difficult to find a subject to discuss other than pseudo-humorous ones. Certainly, I might be serious and say that on Sunday we took up 117 passengers and one got out making 115, and then perhaps on Monday we took up 36 of the same kind only fatter.

These statistical observations are all very well and show a proper appreciation of mathematics no doubt. Nevertheless, they are easier to print with a cash register than a typewriter. And I can't see why Samuel Smith, who flew for 23 minutes on Thursday, the 24th, should be allowed to inflict his troubles on either you or myself.

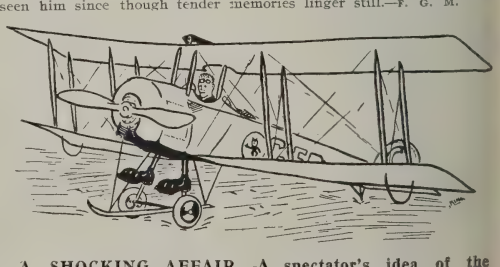
One thing did happen a week or so ago that is worth recording. In fact it is almost worth a treatise pointing out the ideal spirit in which the British Public *might* approach aviation (and aviators).

The instance in question was a gentleman, a very solid gentleman, who insisted on paying one pound for a five shilling flight and who said, when I ventured to remonstrate (a little *sotto voce* perhaps), "Make it two pounds if you like,"—this in a slightly aggrieved tone.

I argued no further. After taking him for a two minute flip—he would not hear of a longer one—I brought him down. Then, imploring me not to be offended, he gave me a pound tip.

Thereafter, greatly cheered by the fact that I was *not* offended, he gave a pupil, who had assisted in starting the machine, another pound. The pupil, who by the way has just ordered a specially fitted Avro from us, paid it into the office fund, so we also benefited by that.

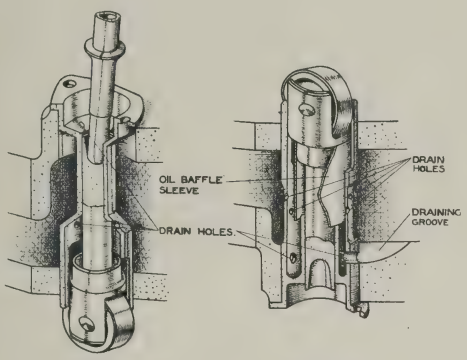
Now this was very nice. Twice more he returned and repeated the whole performance except the tips, not only going up himself but paying for his friends as well at pre-war rate. We have not seen him since though tender memories linger still.—F. G. M.



A SHOCKING AFFAIR.—A spectator's idea of the function of the Avro undercarriage shock-absorbers.

FEATURES IN THE DESIGN AND CONSTRUCTION OF THE "Bristol" JUPITER SERIES VI RADIAL AIRCOOLED ENGINE

No. 11.—Tappet Assembly.



This unit affords an obvious illustration of the attention to detail characteristic of the Jupiter design.

For the tappet guides, instead of the conventional phosphor bronze, duralumin is used with a substantial saving in weight.

The thrust of the cams is taken by the hardened rollers running on hardened pins in hardened bearings completely immersed in oil spray, with the result that appreciable wear on these parts is never experienced.

The cupped end of the tappet is radiused and hardened to receive the push rod end, allowing it perfect freedom to take up the correct alignment.

On the tappets for the lower four cylinders the possibility of oil leakage is prevented by the special oil baffles which automatically trap and collect the surplus oil and drain it back into the crankcase.

THE BRISTOL AEROPLANE CO., LTD., FILTON, BRISTOL.

BY APPOINTMENT TO HIS MAJESTY THE KING

Two More Light Aeroplane Records on Wakefield Castrol

Another world's record for Great Britain was secured by Capt. H. S. Broad, on August 29th, when he reached an altitude of 20,000 ft. in 17 minutes in the "Tiger Moth" monoplane in which he recently established a World's light aeroplane speed record of 186.47 m.p.h. On both occasions Wakefield CASTROL was used in the De Havilland engine.

To add to these remarkable performances on CASTROL, Mr. Bert Hinkler flying an "Avro Avian" (Cirrus engine) established a distance record, flying from Croydon to Riga, on August 27th, a distance of 1,200 miles in 10 hours 42 minutes also using CASTROL.

And so the world over, in all feats of speed or reliability — the choice is invariably—

There is a Wakefield CASTROL grade for every engine, backed by the recommendation of over 200 Motor Manufacturers.

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The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 30; Tuesday, 24; Wednesday, 26; Thursday, 28; Friday, 28; Saturday, 24; Sunday, 5.

IMPERIAL AIRWAYS LTD.:
London—Paris—Zurich; London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin: Machines 70, passengers 556, freight 22 tons.

AIR UNION:
Paris—London: Machines 39, passengers 160, freight 11¼ tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 26, passengers 124, freight 4 tons.

SABENA:
Brussels—London: Machines 12, passengers 55

DEUTSCHE LUFTHANSA AG.:
Berlin—London: Machines 12, passengers 45.

PRIVATE:
Machines 6, passengers 5.

Total number of trips by British Machines, 76, carrying 561 passengers. Foreign Machines, 89, carrying 384 passengers.

COMPARATIVE FIGURES.

Week ending Sept. 4:
Machines, 165; Passengers, 945; Crews, 296; Total personnel, 1,241.
Corresponding week, 1926:
Machines, 126; Passengers, 844; Crews, 158; Total personnel, 1,002.
Corresponding week, 1925:
Machines, 154; Passengers, 794; Crews, 221; Total personnel, 1,015.
Corresponding week, 1924:
Machines, 145; Passengers, 684; Crews, 177; Total personnel, 861.
Corresponding week, 1923:
Machines, 139; Passengers, 636; Crews, 222; Total personnel, 858.
Corresponding week, 1922:
Machines, 135; Passengers, 433; Crews, 245; Total personnel, 678.
Corresponding week, 1921:
Machines, 104; Passengers, 356; Crews, 127; Total personnel, 483.
Corresponding week, 1920:
Machines, 129; Passengers, 285; Crews, 154; Total personnel, 439.

Croydon Notes.

To begin at the wrong end of the week. Saturday last was a day of early morning fogs, when all the services from Croydon were delayed until about 11 o'clock. There is a tremendous activity on these occasions, when the various aircraft are all ready to start at the same time, and there is often keen competition to be first away. The Control Tower gets them signalled off one after the other with the minimum possible pause between each.

An hour or two's delay for fog always gives the pilots a chance to bait the Ground Staffs, who follow them about, clucking anxiously and hover over them as they consume their morning cup of tea. Finally the pilots of all nations are shepherded to the Meteorological Office, where they swop yarns which turn the Chief Meteorologist's ears bright pink as he bends over his weather map. If his hand should falter and a line go askew on the chart, woe betide the weather for the ensuing week.

Pilots spend so much time in the air brooding over the iniquities of ground staffs that it is well they should have an occasional morning in which to work off the brilliant but scurrilous invective they have so laboriously invented, and in any case, it is good for ground staffs to be insulted at fairly regular intervals.

Imperial Airways, who now run their regular services with "clock-like" regularity (see their monthly bulletin for confirmation) also seem to have great success with their Friday afternoon tea-party over London. These start at 4.0 p.m., and so does the regular K.L.M. afternoon service.

Not long ago the K.L.M. people found themselves suddenly and inexplicably possessed of two passengers too many. Every seat was filled but two indignant passengers were still waiting to take their places in the machine. Eventually two ladies were found ensconced in the Fokker firmly grasping £2 2s. tickets for a tea flight over London. Now the fare to Amsterdam is £4 and no tea is awarded, and both Imperial and K.L.M. are still wondering what the answer would have been if the ladies had gone to Holland.

Recently a coy bride who was with difficulty persuaded to face the camera, flew to Holland by K.L.M. She was a large Irish wolfhound bitch, destined to wed the largest dog in the world, at present residing in the Kennels of a noted Dutch dog-breeder at Heerde in Holland, where the honeymoon will doubtless take place.

A baby 5½ months old came across from Holland, also by K.L.M., the other day. It was perfectly fit, but looked solemn, not to say gloomy, until it caught sight of the K.L.M. manager, whereupon it crowed with delight, and roared with laughter. Whether this is to be regarded as a compliment to the K.L.M. manager is open to considerable doubt.

The floor of the entrance hall of the Aerodrome Hotel, which is believed to have been constructed by Works and Buildings (an obscure branch of the Air Ministry) was recently found to consist of a spongy mass of rotten wood adhering to some stout linoleum. Earth tremors were registered on the entrance of a German Pilot, and it was then discovered that no damp course had been put in, and that, therefore, the whole of the flooring had gradually mouldered away.—???

AIR TAXIS, LTD.

Air Taxis Ltd. have been doing aerial photography during the week, and also film work for the Gaumont Film Company.

On Thursday night they did stunt flying over the Crystal Palace as a prelude to the fireworks.

On Saturday they took a honeymoon couple to Oxford.

On Tuesday of this week they were to take pictures of the Doncaster races.

IMPERIAL AIRWAYS FARES.

The following reductions in fares in Imperial Airways European Services are announced. The reductions are to encourage people to use the air routes during the winter months and will take effect from Oct. 3:—

London—Paris.—Single, £5 5s. Return, £10. Excess Baggage, 4d. per lb. (no change).

Paris—London.—Single, Fr. francs 650. Return, Fr. francs 1,250. Excess Baggage, Fr. francs 4.50 per kilo (no change).

London—Brussels.—Single, £4 10s. Return, £8 5s. Excess Baggage, 4d. per lb. (no change).

Brussels—London.—Single, B. francs 785 Return, B. francs 1,445. Excess Baggage, B. francs 6 per kilo (no change).

AIR MAIL TO BELGIUM.

The Postmaster-General announces that the afternoon letter Air Mail to Belgium, which was closed at the General Post Office, London, at 12.30 p.m., has been suspended for the winter. The despatch for Germany closed at the same time is, however, being maintained, and by connecting with air services from Cologne next morning will continue to offer advantage for letters to many places in Germany (Hamburg, Bremen, Frankfort, Munich, Dresden, Breslau, etc.).

A FAIR COMPARISON.

The Air Ministry has permitted the issue of the following statement:—

The Southampton twin-engined flying-boat (two Napier Lion engines) has recently been subjected to special tests at Felixstowe and has undergone overload trials at a total weight of well over 18,000 lbs. This is 3,500 over its normal load and gives the machine the useful load of well over 50 per cent. The flying-boat behaved in an extremely satisfactory manner under these conditions.

This is particularly interesting in view of the fact that the Dornier flying-boat on which Mr. Courtney had hoped to fly non-stop across the Atlantic refused to leave the water with a weight of something like 16,500 lbs., using exactly the same engines as those fitted to the Southampton. Also one is under the impression that the Southampton is actually faster than the Dornier.

WHAT CANADA WANTS.

The following letter from a business man in Winnipeg may be educative to the British Aircraft Industry:—

We have several small air routes in operation to the mining dismment of the Aeroplane Industry in Canada. As a public utility, both commercially and otherwise, we believe the aeroplane will rapidly take its place and be recognised to as great a degree as, if not more so than, the automobile.

In Canada the use of the aeroplane has been adopted by our Government as a very necessary element in certain survey work, and as a method of transport to territories that have been difficult or impossible to reach otherwise. In other words it is an absolute necessity.

Commercially the use of the aeroplane here is practically in the embryo stage yet. But we look for a rapid development of that method of transport as a public service in the very near future.

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STRONGER AND MORE DURABLE THAN METAL
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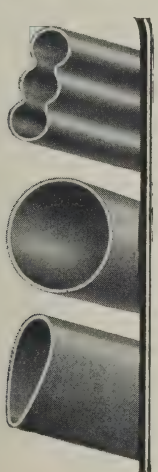
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SLOT AND AILERON CONTROL.

"The invention of the slot and aileron control represents the most successful attempt . . . . . to increase the efficiency of the aileron."

"The Spinning of Aeroplanes"
Bryant and Gates,
Aeronautical Research Committee.
Reports and Memoranda No. 1,001, p. 103.

HANDLEY PAGE, LTD.,
Cricklewood, N.W.2.



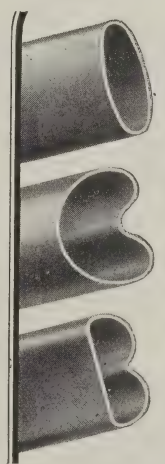
Manipulated Tubular Components for Aircraft.

Although some Aircraft Manufacturers prefer to purchase

Accles & Pollock Cold-Drawn Weldless Steel Tubing

for subsequent manipulation in their own works, there are many intricate processes of manipulation, etc. in which considerable economies can be effected when such operations are conducted in the ***same*** works in which the tube is made.

Complete Departments for Manipulation, Brazing, Welding, Plating, etc. are part of the comprehensive organisation we offer.



TRADE MARK
ACCLES & POLLOCK, LIMITED
MAKERS & MANIPULATORS OF WELDLESS STEEL TUBING
OLDBURY
BIRMINGHAM

We have several small air routes in operation to the mining districts. We also have an aviation school in Winnipeg, under the name of "Flights." Its purpose is to accelerate interest, and provide the means of acquiring the knowledge and experience necessary to understand and/or operate an aeroplane successfully.

We might mention that our Aviation School, "Flights" organisation, intend to open branches in all important towns and cities in Western Canada, and probably in Eastern Canada. At the present time they have a large volume of inquiries from young aspirants to the aeronautical profession. It might be both interesting and advantageous to make connection with similar organisations in Britain, and we will be delighted to open correspondence with them.

Canada we believe is one of the best countries in the World in which to develop the Aeroplane Industry, with its 3,000 miles of territory East and West, across the Dominion, and the large stretch of territory North and South through the U.S.A. to the Gulf of Mexico, and thence South to Cape Horn.

Winnipeg is to my mind the most logical British point of contact over all, and as a base of operation excels all others. It is superior as a point of manufacture;—cheap power, choice building sites, easy distribution, with the whole of Canada to cater to as marketing possibilities, as well as the large prospective markets South, in the U.S.A., South America and Mexico.

The matter of local population, or transportation facilities, does not enter into the question to the same extent, if at all, as in other industries, as distance need not be considered, and deliveries can be effected over an unharnessed route in the heavens, under the power plant of the 'planes themselves.

Our cities and towns are not too far advanced to create any difficulty in the matter of the installation or equipping of landing facilities, at convenient and proper points. In other words, to-day is the psychological moment in the history of Canada to create and develop this industry.

In the United States, the interest is enormous, and the determination to excel is portrayed in the efforts being put forward, there to—

"MAKE AMERICA FIRST IN THE AIR"

(see their National Aeronautic Association advertisement in *Aviation*).

The Vickers interests at Montreal are really the only practical manufacturers we have in Canada, and with the present outlook in view, we believe the possibilities worthy of the consideration of some of our other British operators, locating in Winnipeg.

It only requires one to make a retrospect of the Automobile Industry to realise to what extent our British manufacturers either overlooked or underrated the possibilities of the Canadian Market. We imported over $38,508,611 of automobiles, engines, parts, etc., during 1926, nearly all of which came from the U.S.A. As a matter of fact our statistics show that only $208,082 came from Britain.

We would hate to see a repetition in so far as the Aeroplane Industry is concerned, and there is no reason in the World why we cannot hold a better share within the Empire. We must not overlook the fact that regardless of sentiment or patriotic desires there is a natural tendency in favour of U.S.A. manufacturers, on account of close proximity which permits better service and much closer co-operation, two of the most important factors in merchandising.

If our British manufacturers feel our prospects are not big enough to expend the cost of production here, they may consider some basis of co-operation with us, that will hold the business in check anyway. If they do not, there is the danger that our aeroplane materials may become standardised or Americanised, like the automobile, which will be disastrous to our British manufacturer as concerns Canadian business. This is a matter worthy of the consideration of all those interested at home in the development of not only the Aeroplane Industry but numerous other manufacturers.

We will be very glad indeed to make connection with any interested concerns, for a complete line of requisites for this industry, so that we will be in a position when the opportunity presents itself to establish business for them.

There is no question of credit, as all business will be transacted on a basis of confirmed letter of credit, which is equivalent to cash, except in instances when the buyers are responsible and reputable concerns that manufacturers will have no hesitation to accept.

We trust you will consider this matter of sufficient importance and interest to bring before your readers through your valuable Journal, and if there are any of our British manufacturers desirous of making further inquiry, or procuring more information as to the possibilities, we shall be delighted to be at their service.

[If any British firm is sufficiently interested in the possibility of doing business in Canada to want to get in touch with the writer of the foregoing letter, one will be very pleased to forward communications.—C. G. G.]



PERSONAL NOTICES.

MARRIAGES.

GREEN—JACKSON.—On Sept. 3, at Brighton, Harold Francis Green, M.A.Oxon, of 12, Clifton Terrace, Brighton (late Royal Fusiliers, S.R., and Capt., R.A.F.), eldest son of the late George Sangster Green, Barrister-at-Law, to Mary Victoria May Jackson, widow of Robert Jackson, of Prenton, Cheshire, and Colombo, Ceylon.

HALFORD—DAVIES.—On Sept. 3, at Horton, Bucks, Wallis Halford, D.F.C., elder son of Mr. and Mrs. G. Halford, Cleeve Prior, to Mary, only daughter of the Rev. J. and Mrs. Wynne Davies, of Horton Rectory.

FORTHCOMING MARRIAGES.

CROOK—GARNETT.—The engagement is announced between Joseph Alan Crook, M.C. (late Major, R.F.C., and R.A.F.), son of the late J. B. Howard Crook and Mrs. Howard Crook, of 36, Alexandra Court, Queen's Gate, S.W.7, and Margaret Jeanie Russell, elder daughter of Mr. and Mrs. Garnett, of Blackwell, Somerset.

DALZELL—THOMSON.—The engagement is announced of Flt. Lt. W. A. K. Dalzell, Royal Air Force, and Peggy, daughter of Mr. and Mrs. William Thomson, of 36, Albert Court, S.W.

SUGDEN—BRAIN.—The engagement is announced of Flt. Lt. Ronald Scott Sugden, A.F.C., son of Dr. and Mrs. Sugden, of Aintree, Liverpool, and Miss Helen Mary Brain, daughter of Mr. and Mrs. W. H. Brain, of Cwrt-yr-Ala, near Cardiff.

BIRTHS.

CONSTABLE-MAXWELL.—On Aug. 30, at 2, York Terrace, London, N.W., to Carrie, wife of Gerald Constable-Maxwell, M.C., D.F.C., A.F.C.—a daughter.

DARNTON.—On Aug. 26, at Sissinghurst Court, Cranbrook, Kent, Iris (*née* Moreton), the wife of Capt. Rupert Darnton, D.F.C., of twins (girls).

DEATHS.

SMITH.—In London, on Sept. 5, suddenly, Major T. Vincent Smith, late R.F.C. and R.A.F.

Major Vincent Smith was born in London in 1872 and was educated at Eastbourne and Leipzig. He was a pioneer of wireless research and joined the Amalgamated Radio Telegraph Co. in 1906. He joined the R.F.C. on the outbreak of War and in 1916 was Wireless Officer at R.F.C. H.Q.

On Sept. 25, 1916, he was made a Park Commander, and Maurice Baring, in his famous book, *R.F.C. H.Q.*, wrote on that date: "Our wireless officer, Major Smith, has been made a Park Commander. I have addressed him the following lines on the subject:—

I hope one day Toc Smith will be
Sir Vincent Toc Smith, K.C.B.
He thoroughly deserves the rank
For fitting wireless on a Tank:
For talking on a telephone
From Paris to the torrid zone
From Lundy Isle and Salisbury spire
To Rome without the aid of wire;
For making a transmitter weigh
A pound less than a pound of hay;
For making a receiver less
Than Staunton's pocket-book of chess.
For these and for all other things,
Toc Smith deserves the thanks of Kings.
But as there are no Kings to hand,
He'll get an Aircraft Park Command;
Commander of an Aircraft Park;
This comes of fiddling with a spark."

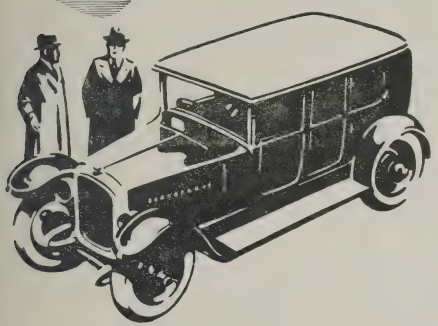
While serving with the R.F.C. in France Major Vincent Smith was gassed and at the beginning of 1917 he was placed in charge of wireless at the Air Ministry for all theatres of war. In the year 1918 he returned to France as chief wireless officer to the Independent Air Force. He was awarded the Military Cross on June 3, 1916.

Since the War Major Vincent Smith has been adviser on wireless matters to *The Times* and was constantly called in as consultant by the Air Ministry.

For several years he was largely responsible for organising the Independent Force, R.A.F., Dinner, one of the most successful annual re-unions in the Service.

He was attending the opening of the beam wireless station to India when he was seized with the illness which resulted in his death in a few minutes.

£ Will your Car fetch a good price second hand?



IT isn't only the engine and the transmission that matter when the price of a second-hand car is being discussed. Appearances stand for a lot even though mechanical soundness may be of prime importance.

First impressions are gained from the look of the body. If it *looks* dilapidated a prejudice is created right away.

A car finished with Cerric Cellulose Lacquer will look new even when you are ready to sell it. Incidentally it looks as good as new all the time you are using it. Weathering only mellows it. Cleaning improves it and accidents that damage paintwork irretrievably leave it unhurt.

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186.47 miles per hour

ALTITUDE RECORD

20,000 feet

Imagine a tiny aeroplane, weighing only 600 lbs., reaching a speed more than three times that of the fastest express, and an altitude nearly one-and-a-half times that of Mt. Blanc. Such was Captain H. S. Broad's marvellous achievement on his little "Tiger Moth" aeroplane, with which he set up new speed and altitude worlds records. Like most modern aviators, he used Pratt's Ethyl Petrol—still further proof of the incomparable quality and reliability of



Pratts

SUPREME IN AIR, ON LAND AND WATER.

D.A.979

A VICKERS RETIREMENT.

The following statement has been issued by Vickers Ltd. :—

Sir Vincent Caillard, who for 27 years has been a Director of Vickers Limited, and who was mainly instrumental in arranging for the recent reconstruction of the Company (which is now practically completed) has tendered his resignation as from Sept. 1. His colleagues have accepted his resignation with great regret.

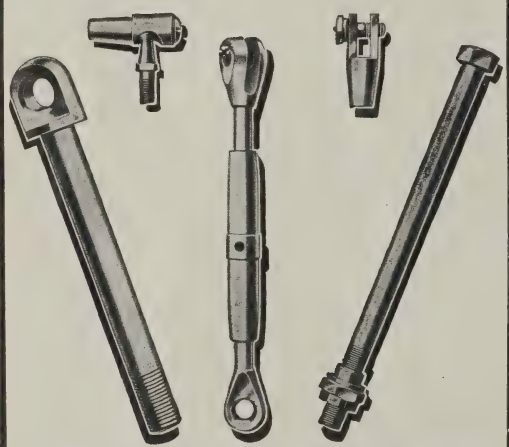
HERE'S HOPING.

Twin cards from America, which one at first thought were wedding cards, announce (A) that the Consolidated Aircraft Corporation, of Buffalo, really regrets the loss by resignation of Colonel V. E. Clark, and (B) that V. E. Clark has resigned from the organisation of the Consolidated Aircraft Corporation.

The Consolidated Aircraft Corporation has made a large number of excellent training ships for the U.S. Naval Air Service to the designs of Virginius, commonly known as "Ginny," Clark, and has done much by its excellent workmanship to uphold the standard of the better class American aircraft firms. One hopes to hear soon of renewed activity on the part of Colonel Clark, and one wishes continued success to the Consolidated Aircraft Corporation.—C. G. G.

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DARLASTON, SOUTH STAFFS.

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Boulton and Paul P.9. Dual Control, C. of A., excellent condition £275.—Apply Box No. 5417, The Aeroplane, 14, Bream's Buildings, E.C.4.

Practical Petrolmotor Castings. Half horse-power—9s. 9d. with cylinders bored. Catalogue 3d. Madison's, Harrington Road, Littleover, Derby.

SALE BY TENDER.

The Air Ministry has for disposal by public tender one **D.H.60 Moth Aircraft** and two **Cirrus Engines** lying at Central Flying School, R.A.F., Wittering, Wansford, Northants. Applications to be invited to tender should be addressed to the Director of Contracts, Air Ministry, Kingsway, W.C.2.

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Several First-Class Aircraft Draughtsmen required. Apply with full particulars of experience and salary required to Canadian Vickers Limited, Montreal, Canada.

Required First Class Aeronautical Draughtsmen with full knowledge of the requirements of Aircraft Design. Only men of sound experience need apply.—State full experience and salary required to Box No. 5416, The Aeroplane, 14, Bream's Buildings, E.C.4.

WANTED.

Light Plane wanted cheap.—A 1923 Lympne Single-Seater or similar machine.—Apply Box No. 5418, The Aeroplane, 14, Bream's Buildings, E.C.4.

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Anything in Rope, Wire, Canvas or Fabric Work.

FLOTATION R.F.D. COMPANY AIR BAGS

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FAIRCHILD CABIN MONOPLANE

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GREAT VISIBILITY.

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FLYING RISKS.

THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C.G.Grey

Vol. XXXIII. No. 11. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"WE OWN THE RIGHT OF ROAMING AND THE WORLD IS WIDE."

(B. B. RUNKLE—*Song of the Sons of Esau.*)



FARTHEST EAST:—Fairey Flycatchers (Jaguar engines) of No. 404 (B) Fleet Fighter Flight, R.A.F., in the Dockyard at Wei-Hai-Wei, North China, in July, 1927. No. 404 (B) Flight is one of the Units in H.M.S. "Argus." This Unit is further away from home than anyone of the R.A.F.—except one "foreign language" officer in Japan.

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Mrs. Elliott Lynn with her "Avian" Mark II which, in the 2nd International Light Aeroplane Competitions at Zurich, 1927, obtained maximum points for construction, workmanship and accessibility for repair, highest points for comfort of pilot and passenger, and luggage capacity, and also won the take-off, dismantling, housing, re-assembling and starting competitions and the Basle Cup for the greatest speed over a 250-mile course.

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the Basle Aero Club bought the machine that did the greatest speed in the International Light Aeroplane Competitions at Zurich, 1927.

Because:

(a) Its top speed is 100 m.p.h.
(b) It has a wide, split axle undercarriage which makes for greater safety in a forced landing and for taxi-ing at speed and in a wind.
(c) The engine mounting, which is of very rigid construction, permits of rapid removal of the engine in case of repair or replacements.
(d) Pilot's and passenger's seats are most comfortable and accessible.
(e) It has two luggage compartments and can hold more luggage than any other light aeroplane.
(f) The additional short strut from fuselage to wing root gives much additional strength.

The Avro "Avian" Mark II is superior to any other aeroplane in the *real* requirements of the owner-pilot and the Flying Club.

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SEPT. 14, 1927.

THE AEROPLANE

Incorporating
Aeronautical Engineering

VOL. XXXIII. No. 11.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4. Telephone: Holborn 426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months 32s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8$. U.S.A., 1 Year, $8.50c.

ON FLYING RISKS.

Both here and in the United States quite a number of people seem to think that the Authorities ought to put in motion some unknown Law to prevent people from attempting dangerous flights across oceans. On each side of the Atlantic somebody with authority has announced that the State has no authority to stop such flights, which seems to be precisely as it should be.

There is a report from America that the relations and friends of Messrs. Schlee and Brock, who so far have made such brilliant time in their journey round the World, have prayed the Secretary of the Navy to prevent those two aviators from attempting the "suicidal Pacific flight" from Tokyo to Honolulu by way of the almost invisible Midway Islands—to which reference was made in THE AEROPLANE last week as being so inconsiderable that nobody in America has even written a song about them. And the Secretary of the U.S. Navy Department, expressing his personal sympathy, has stated the simple fact that the Navy Department lacks authority over the movements of private individuals.

Thus it may be seen that even in such a law-ridden country as the United States there is a limit to what the Government can do. And it will be an evil day for progress of all sorts if Governments take seriously to interfering with the freedom of the individual, so long as the individual does not discommode others.

Even as it is, there are plenty of people in this country who think that the Air Ministry has far too much power to interfere with an individual's right to kill himself in an aeroplane. They would have us abolish all the Air Regulations for all Airworthiness Certificates for aircraft and engines, and all certificates of ability for pilots, on the plea that by insisting on a moderate degree of airworthiness in the aeroplanes and a moderate degree of skill in the pilots the Government is hampering progress in aviation.

As a matter of fact, the only reason why the Government does interfere at all is to prevent incapable pilots and dangerous aeroplanes from doing damage to the general public. But there would be perfectly good reason for laws preventing fool pilots and fool designers from doing damage to the reputation of British Aircraft.

After all, legislation exists to produce the greatest good for the greatest number. When once that simple fact is recognised one sees how unsound and even absurd is the plea put forward by so sane a paper as *The Manchester Guardian* for giving the necessary powers to the Secretary of State for Air to stop "such hazardous adventures as attempts to fly the Atlantic on land planes."

GRANDMOTHERLY LEGISLATION.

The same paper states definitely that the Australian Government have issued a general prohibition of flights by land planes over more than fifty miles of ocean. Assuming that the *Guardian* is right in its statements, one can only say that the Australian Government seems to be overstepping its powers over the freedom of the individual.

Furthermore, it is illogical, because there is no more reason for placing the limit at fifty miles than there is for placing it at five or five hundred. The best of seaplanes five miles out at sea off an uninhabited coast and 100 feet from the water in a full gale is in just as great danger as is a land-going machine half-way across the English Channel at 500 feet, or a big flying-boat half-way across the Mediterranean.

The fact is that no fixed limit can be placed on what is dangerous and what is not.

We know from experience that the chances are several thousands to one in favour of any well-built aeroplane with a well-tuned engine getting safely across the twenty-one miles of the Channel in any weather. Of all the thousands of Channel crossings by air in the last eight years, since Civil Aviation began again after the Armistice, only four or five have actually come down in the water. And if one's memory is right, only four lives have actually been lost in this way.

But that does not mean that it is safe to fly across the Channel on land machines. It only means that the risk is so small that it is worth taking to save the time and trouble of changing from a landplane to a seaplane.

Quite a number of machines have flown that desolate 200 miles of water between Malta and the North African coast without falling in. And even more have flown the still worse stretch from Basra to the Persian coast. But that does not in the least mean that it is quite safe for any land machine to fly over 200 miles of water.

WHAT IS WORTH WHILE.

The only thing that can limit dangerous flying of this kind is the answer which the individual is prepared to give to the question, "Is it worth while?" Charles Lindbergh thought it was worth while to take the risk of flying the Atlantic, because, although the Atlantic had been flown by Alcock and Brown years before, nobody had actually flown non-stop from New York to Paris, in other words, from the working capital of the New World to the capital (in sentiment at any rate) of the Old World.

His was a wonderful flight. And the most wonderful thing about it, which all writers on the subject have omitted to mention, is that he had already done eleven hours flying from New York to Newfoundland before he started to fly the Atlantic.

It is all very well to start off the beach, so to speak, and say to oneself, "Here goes for the Atlantic crossing, and God help us!" But it is quite another thing to do a long day's flying and then face that 1,600 miles of sea without practically a hope of being picked up if one falls into it.



A NEW COMMERCIAL FLYING-BOAT.—A front view of the Saunders Medina (two 450 h.p. Bristol Jupiter IV engines). The machine is notable for the absence of wire bracing. The hull is constructed of Saunders "Consuta" sewn plywood.

That makes his flight even more remarkable than any other west to east Atlantic flight.

After he had done it, apparently Chamberlin and Levine thought it was worth their while to imitate him. In spite of the fact that it is only possible to do a thing for the first time once, there is a certain amount of publicity and kudos and so forth to be got out of doing a remarkable thing a second time, and they struck the very sensible idea of going direct to Germany instead of to France, so as to receive the applause of a different nation. But after they had done it there was no particular object in anybody else doing it.

After all, public sentiment, as controlled by that curiously incalculable force known as mob psychology, or psychological momentum, is extraordinarily sound in its judgment in spite of the probability of its being misguided by stupid editors of newspapers. Hundreds of thousands of people greeted Lindbergh on his arrival at Croydon although he had been to Paris first. Hardly anybody took the trouble to go to Croydon to see Chamberlin and Levine arrive.

There were fewer still to greet Brock and Schlee. They, at any rate, had a good reason for their Atlantic flight, because it was merely a necessary stage in their attempt to fly round the World. But whether the flight round the World itself is worth the risk is another matter.

The American Army aviators have already shown that it can be done. The air route from London or Paris to India and Japan, or any other part of the Far East, has been covered more times than it is worth while to remember. And anyhow, nobody wants one continuous air line right round the World. So they are really not proving anything that needs proving.

In spite of that, they propose to make a 2,400-mile hop from Japan across the Pacific, to be followed immediately by two further hops of approximately 1,500 miles each. So despite the reliability of the Wright Whirlwind engine, they are obviously taking enormous risks for no good purpose whatever.

The Dole Derby, as the Americans called that extraordinarily foolish race from San Francisco to Hawaii which altogether cost nine or ten lives, was another example of entirely useless risk. The flight had been done by a U.S. Navy flying-boat. It had also been done on land machines by two U.S. Air Corps officers and by two other aviators who were not competing for the Dole Prize. One U.S. naval flying-boat had spent seven days at sea through engine failure, and happily managed to navigate on the surface of the water in fine weather to an island from which it was rescued.

Outside Expenses.

Some idea of the foolishness of these proceedings from the purely practical point of view may be gathered when we consider that after the three machines which came down in the Dole Race had been missing long enough to make quite sure that the occupants were dead, more money was spent in looking for them than the amount which was offered in prizes.

Similarly when Nungesser and Coli were lost in the attempt to fly from France to America, the lives of quite a large number of aviators were risked quite unnecessarily in hunting for them.

When Bertaud, Hill and Payne in "Old Glory" sent out their S.O.S. in mid-Atlantic, no less than four steamers were deflected several hundreds of miles off their courses to look for them.

When one considers that of these steamers three at least were Atlantic liners of the first class carrying mails on whose arrival to time matters of international moment might depend, and carrying a number of people to whom time was of vast importance, not only to themselves but possibly to the welfare or even to the lives of others, can we find any justification for delaying them two days or more on their journey to look for people who deliberately took an enormous risk without any reason for doing so except their own personal benefit?

It is all very fine to deflect a liner from her course to save the people on a ship which is in distress. Those people are there in the course of doing their duty to the World at large. But it is quite another thing to dislocate public services for the benefit of people who are simply pleasing themselves, or are being paid to advertise somebody else.

One confesses to having little sympathy with people who lose their lives competing for a pure advertisement prize such as that offered by Mr. Dole, the pineapple packer, or the brewery people of London, Ontario, or *The New York American*.

A Matter of Temperament.

One interesting psychological point is noticeable in nearly all these flights.—So many of the pilots are or were regular air-line pilots.

Of course, one expects the pilots to be professional aviators rather than owner-pilot amateurs. But there is, or ought to be, a vast difference in temperament between the professional test pilot or stunt exhibition pilot, whose whole livelihood depends on taking risks, and the regular air-line pilot whose whole fitness for his job ought to be judged by his own judgment in avoiding risks.

Personally, if one had a free hand in the running of an air-line, one would promptly get rid of any pilot who even wanted to leave his job to take part in a dangerous competition. Ordinary air racing is all right. It probably allows pilots to work off superfluous energy when they are a bit bored with the monotony of aerial 'bus-driving over a set route. But the man who will deliberately take entirely unnecessary risks cannot possibly have the temperament of a locomotive-driver or 'bus-driver, which is necessary to the man who intends to be permanently an air-line pilot.

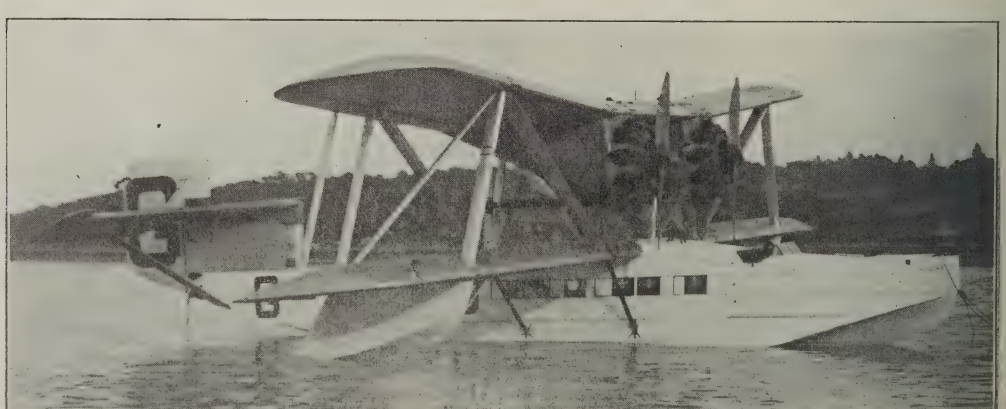
It does not mater much whether a man takes such risks because he is a fatalist or because his vanity impels him to do so. The point is that for regular air-line work a pilot should always play for safety. Which is an extremely uninteresting game but pays both employer and employee in the end.

Quot Homines Tot Sententiæ.

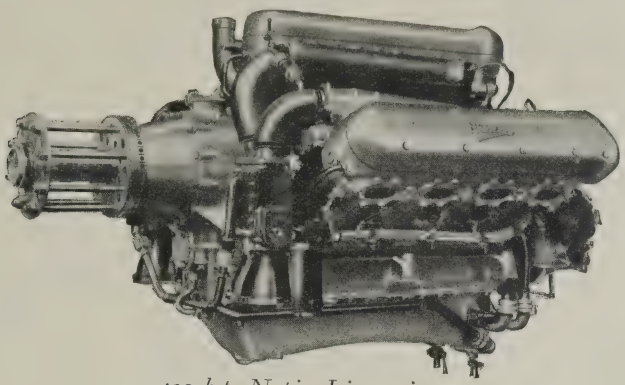
Naturally opinions differ very much as to whether these trans-Oceanic flights are justifiable or not. And there seems reason for recording here some of the opinions which have been expressed in print on the subject.

Sir Sefton Brancker, our energetic Director of Civil Aviation, in an interview in *The Morning Post* has said that we cannot stop people from trying to fly the Atlantic and that we do not want to stop them. He pointed to Blériot's cross-Channel flight in 1909 and the fact that we are now buzzing backwards and forwards over the Channel every day. From which he deduces the fact that eighteen years from now we shall be buzzing backwards and forwards over the Atlantic. He also said that the flight from East to West has to be done, and that an Englishman ought to be the first to do it.

All that may be quite true. But we do not go on buzzing across the Channel, to use his own phrase, on the sort of machine that Blériot used in 1909. The Atlantic has now been crossed quite an unnecessary number of times on entirely unsuitable machines.



THE SAUNDERS MEDINA.—A side view of the new commercial flying-boat fitted with two 450 h.p. Bristol Jupiter VI engines, recently completed by S. E. Saunders Ltd. of East Cowes. It has accommodation for ten passengers.



450 *h.p. Napier Lion engine*

Speed!

Referring to the Air Exercises recently carried out by the Royal Air Force, " The Times " wrote as follows :—

" The experience of the week supports the view that speed . . . is the most desirable attribute of all, even if it can only be ensured by the carrying of fewer troops."

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The British speed record is held by a Napier-engined Supermarine seaplane.

The last three Aerial Derbys were won by Napier-engined Gloster aircraft.

The fastest time in the 1927 King's Cup race was achieved by a Napier-engined Vickers " Vixen " aeroplane.

All the successful long-distance Royal Air Force flights have been accomplished with Napier engines. On two occasions four Fairey aeroplanes, each fitted with a single Napier engine, flew in formation from Cairo to Cape Town and back, without experiencing any mechanical trouble.

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When once it had been done there was no earthly object in doing it again under exactly similar dangerous conditions. Each successive flight ought at any rate to have in it something which would contribute to the progress of aviation by making the conditions safer. And that is precisely what none of the flights after Lindbergh's have had.

Major C. C. Turner in one of his habitually sound articles in *The Daily Telegraph*, on Sept. 6, says that pioneers must take risks and that none can claim that the crossing of the Atlantic by a land aeroplane is not perilous. And he contrasts the usless waste of life and machines in these transoceanic flights with the definite knowledge which has been gained by the failures of the R.A.F. flights to India and of other long-distance flights over land.

Colonel the Master of Sempill, with whom one is pleased to find oneself in complete agreement again, points out that if long-distance flights overseas are to become regular, apart from the use of airships, the flying boat is undoubtedly the kind of craft that must be used.

Lt.-Col. J. T. C. Moore-Brabazon, M.P., calls the Atlantic crossing on a land machine without wireless suicidal. He adds, in agreement with Col. Sempill, that the crossing of the Atlantic is an affair for a big boat, capable of riding out quite a storm on the ocean for several days and equipped with wireless to notify its position.

Mr. A. V. Roe, who has always been particularly sane and cautious in the many innovations which he has introduced,—innovations which have never earned for him the national recognition which he deserves,—remarks that in the near future huge metal flying-boats driven by crude oil engines will traverse wide stretches of water with practically no risks, "so why take them now?" And he adds "Pilots can render greater service in other directions." In which he is perfectly right.

Mr. George Woods Humphery, whose able management has done so much for Imperial Airways, also says that there can be no doubt that the flying-boat must be the ultimate type of craft for long distances oversea, and that therefore fundamentally it should be the craft selected for any experimental efforts of this nature.

The Flying-Boat's Limitation.

Here one would point out, on the authority of one of the best and most experienced big boat pilots in the R.A.F., that no flying-boat in existence to-day could ride out a full-blown Atlantic gale for more than a few hours. Nevertheless under ordinary Atlantic conditions even in a fresh breeze, a flying-boat which had some little engine trouble could probably sit on the water long enough to put the trouble right, and then get off again.

The possibilities in this direction are great, because already we have produced, in the Supermarine Southampton, a flying-boat which gets off the water with a shorter run than is needed by any of our land-going machines with similar power, and lifts a bigger load and flies at a higher speed when it is off the water. And one gathers that the newer Supermarine, Short, Blackburn and Saunders flying-boats with bigger power are relatively more efficient.

But we are still up against the trouble that if a flying-boat has to come down in a real storm its wings are pretty well bound to be battered to pieces before it has a chance of getting off again, or a sea may smash its airscrews, as happened to one of our machines in the Baltic the other day.

Therefore there may still be something to be done, especially in the very big flying-boats, with Mr. Pemberton Billing's twelve-year-old idea of a flying-boat which can slip its wings and tail-surfaces as a separate unit by themselves, and become a sea-worthy motor boat when free from them. This is quite a workable proposition, and only involves a few difficulties which could be solved by any competent mechanical engineer without aerodynamic knowledge.

More Opinions.

Lieut.-Col. N. G. Thwaites, the new Assistant Secretary-General of the Air League, points out very sensibly that the need of Commercial and Civil Aviation to-day is not a perpetuation of spectacular stunt flights with its round of successes interspersed with tragedies, but steady concentration on making it a safe, regular and economic form of transport comparable with the steamship or the railway.

This is an excellent sentiment. And if the Air League will go ahead on those lines, instead of dabbling in Service politics and personal prejudices, it will go a long way towards fulfilling the objects for which it was founded.

Lord Thomson, as Chairman of the Aero Club, expresses himself as being entirely in agreement with Major Turner's article and hopes that his opinions will be taken in the right spirit, more especially by would-be air passengers.

Apropos passengers on these particularly foolish jaunts, our old friend Beachcomber of *The Daily Express* puts in one of his usual biting comments It reads thus :—

I mind the time, my dear grandchildren, when our boys used to run away to sea. But now our girls run away to air. At least they try to. Miss Boll burst into tears when she was told that she could not go on the trip, and she appears to have been very thoughtful about the extra weight. She was wearing jewels worth not more than £32,000, whereas an evening paper informs me that she usually wears at least £40,000 worth. So she had cut things down pretty rigorously. I think she must be a wow, whatever that is.

This, if not exactly a plea for sanity, is at any rate an incentive to a sane outlook on the whole business.

Finally Mr. Handley Page, who is always abnormally sane on matters of air transport from the passengers' point of view, says that he cannot see that these flights serve any very useful purpose now. He says that if an aeroplane can fly 4,000 miles non-stop it obviously can cross the Atlantic, for there is no difference, from the point of view of engine reliability, between that and going round and round an aerodrome. He says that he sees no chance whatever of establishing a cross-Atlantic service in the near future and that he certainly would not go as a passenger.

And so say all of us—except those whose love of the limelight is strong enough to overwhelm all sense of personal risk and even their love of life itself.—C. G. G.

A NEW YORK—BERMUDA PRIZE.

The Bermuda Trade Development Board announces that it proposes to give a prize of £2,000 for an aeroplane flight from New York to Bermuda or from Bermuda to New York.

The rules for the proposed flight are being drawn up and will be issued at an early date. The prize will be awarded not necessarily to the first aeroplane to make the flight but on the basis of certain safety factors in the making of the trip. These conditions will be explained in the rules.

A prize of £2,000 is hardly likely to be enough in itself to induce British aircraft constructors to risk a valuable aeroplane and its crew over 700 miles of open sea. The engine, or engines, used in any individual aeroplane in the competition would probably cost as much or more. Nevertheless one hopes that for the honour of British Aviation some British aircraft firm or some fairly well-to-do individual who is interested in British Aviation will have a try for the prize.

After all, Bermuda is, nominally at any rate, a British possession, even though it may be chiefly populated by thirsty Americans. And it would be just as well for the prestige of British Aviation if this prize offered by a British Colony were won by a British competitor.

Six or seven years ago the Bermuda and West Atlantic Aviation Co. Ltd., the moving spirit of which was Major H. Hemming, now of the Aircraft Operating Co. Ltd., did its best in the way of aircraft trade development in Bermuda, but at that time the island had not become so air-minded as it is to-day. If it had been so, £2,000 expended by the traders of Bermuda would have gone quite a long way to develop trade by air between Bermuda and the States.

As concerns this present competition, the announcement states that permission has been granted by His Excellency the Governor, for aeroplanes to fly over Bermuda, subject to the restrictions which are ordinarily required with regard to the observance of the Revenue and Immigration Laws and the non-carriage of photographic apparatus.

Precisely why Bermuda should object to having its photograph taken one does not know. It is hardly a Naval Base of the first class. And even if it were, nothing much could be learned by photographing it which cannot be learned from the surface of the ground or water.

And as to contraband and immigrants, one was rather under the impression that the United States rather than Bermuda would be likely to require such restrictions. In other words, the boot is on the other leg, or the bootleggers are on the other side.

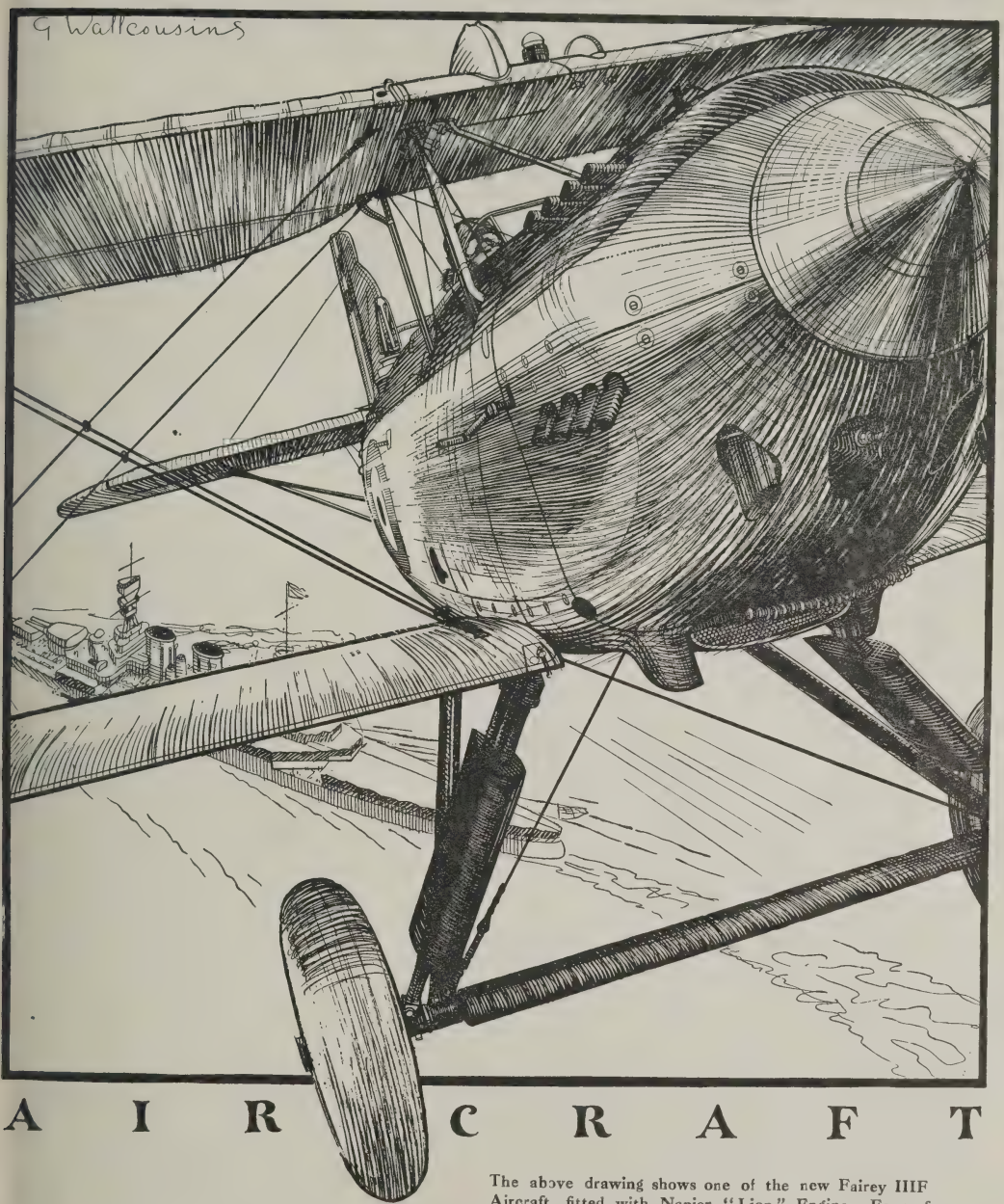
In case any British firms should be interested one would remind them that Major Kitchener, formerly of the Bermuda and West Atlantic Aviation Co. Ltd., is now living in Bermuda and knows just about as much as there is to know about the navigation and weather condtions of the area. He is a first-class pilot and could very well win the prize himself if somebody would supply a British aeroplane for the job. But if anybody would like his advice instead of lending him a machine, a letter to Major H. H. Kitchener Hamilton, Bermuda, will always find him.—C. G. G.

THE R.Ae.S. AND THE I.Ae.E.

The Council of the Institution of Aeronautical Engineers have appointed the following members to serve on the Council of The Royal Aeronautical Society, with which is incorporated The Institution of Aeronautical Engineers :—

Lieut.-Col. J. T. C. Moore-Brabazon, M.C., M.P., F.R.Ae.S., Mr. M. L. Bramson, A.C.G.I., A.F.R.Ae.S., M.I.Ae.E., Mr. F. T. Hill B.Sc., Wh. Ex., A.F.R.Ae.S., M.I.Ae.E., Mr. Norman J. Hulbert A.M.I.Ae.E., Capt. A. G. Lamplugh, A.F.R.Ae.S., M.I.Ae.E., Mr. Fredk. R. Simms, M.I.Mech.E., M.I.A.E., M.I.Ae.E., Mr. Lawrence A. Wingfield, A.I.Ae.E.

FAIREY



AIRCRAFT

The above drawing shows one of the new Fairey IIIF Aircraft, fitted with Napier "Lion" Engine. Four of these machines were used for the recent Royal Air Force trans-African flight under Air-Commodore Samson, C.M.G., D.S.O., A.F.C.

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THE ROYAL AIR FORCE.

The London Gazette.

Sept. 9.

General Duties Branch.—Plt. Off. E. L. S. Ward is promoted to the rank of Flg. Off (June 16). The following are transferred to the Reserve :—Class A.—Flt. Lt. F. E. C. Benstead (Sept. 10); Flg. Off. W. C. Venmore (Sept. 1). Class C.—Flg Off. R. N. Hesketh (Aug. 26); Flg. Off. E. C. Roark (Sept. 9) Flt. Lt. A. L. Russell is transferred to the Reserve, Class A (Aug. 23) (substituted for the notification in the *Gazette* of Sept. 2).

Stores Branch.—Flg. Off. L. W. Park is granted a perm. comn. in this rank with effect from Oct. 1, 1926, on completion of probationary service.

Accountant Branch.—Plt. Off. A. W. Younghusband is confirmed in rank and promoted to the rank of Flg. Off. (Aug. 3).

Medical Branch.—Flt. Lt. F. P. Schofield, M.B., is granted a perm. comn. in this rank (Sept. 7). Maj. A. K. Macdonald, Army Dental Corps, is granted a temp. comn. as Sq. Ldr. on attachment to the R.A.F. (Sept. 5). He will continue to receive emoluments from Army sources. Flt. Lt. G. A. Ballantyne, D.F.C. (Capt., Army Dental Corps), relinquishes his temp. comn. on return to Army duty (Sept. 5).

Reserve of Air Force Officers.—General Duties Branch.—G. Colledge is granted a comn. in Class A as a Flg. Off. (Sept. 6); E. T. D. Offer is granted a comn. in Class A.A. as a Plt. Off. on probation (Aug. 15); Pt. Off. on probation L. J. C. Mitchell is confirmed in rank (Sept. 6). The following relinquish their comns. on completion of service :—Flg. Off. M. D. Allen, Flg. Off. S. E. Sutcliffe (Sept. 2). The comn. of Plt. Off. on probation D. A. Naismith is terminated on cessation of duty (Aug. 18).

Appointments.

Week ending Sept. 12.

General Duties Branch.—Wing Commanders Robert Leckie, D.S.O., D.S.C., D.F.C., to H.Q., Coastal Area, Supernumerary and for duty with H.M.S. *Courageous* (Pending Commissioning), 26/8. H. Gordon-Dean, A.F.C., to H.Q., Wessex Bombing Area, Andover, for Technical Staff duties, 6/9. G. R. M. Reid, D.S.O, M.C., to H.Q., R.A.F., Middle East, for duty at Khartum, 8/9.

Squadron Leaders G. B. A. Baker, M.C., to Heliopolis Details, Middle East, 26/8. W. H. Dolphin, to H.Q., 'Iraq Command, 7/6. A. S. G. Lee, M.C., to R.A.F. Staff College, Andover, 16/8. H. E. F. Wyncoll, O.B.E., M.C., to H.Q., Coastal Area, 15/9. J. O. Andrews, D.S.O., M.C., to Air Ministry, D.O.I., 15/9. J. P. Coleman, A.F.C., to H.Q., Air Defence of Great Britain, 29/8. R. H. G. Neville, M.C., to No. 60 Sqdn., India, 2/9. H. H. MacL. Fraser, to No. 13 Sqdn., Andover, 8/8.

Flight Lieutenants H. S. Scroggs, to No. 100 Sqdn., Spittlegate, 1/9. A. L. Fiddament, to Air Ministry, D.O.I., 15/9. F. L. B. Hebbert, to R.A.F. Depot, Uxbridge, 15/9. F. E. C. Benstead, to R.A.F. Depot, Uxbridge, 19/8. R. C. Savery, D.F.C., to C.F.S., Wittering, 14/9. P. L. Plant, to School of Army Co-operation, Old Sarum, 11/9. C. F. Chinery, to R.A.F. Depot, Egypt, 7/8. G. M. F. O'Brien, D.S.C., to R.A.F. Depot, Middle East, 1/9. W. M. Plenderleith, to No. 56 Sqdn., Biggin Hill, 1/10. F. F. Garraway, to No. 3 Wing H.Q., India, 10/8. J. S. Nichol, to Station H.Q., Spittlegate, 3/9. T. H. French, D.F.C., to R.A.F. Station, Duxford, 6/9.

Flying Officers J. W. New, to No. 216 Sqdn., Middle East, 9/8. G. L. Gandy, to No. 99 Sqdn., Bircham Newton, 5/9. B. F. R. M. Freeman and J. W. Thompson, to No. 16 Sqdn., Old Sarum, 22/8.

Pilot Officers C. S. Cadel, S. R. Sherman, G. Bartholomew and G. R. Weighill, to No. 4 Sqdn., S. Farnborough, 22/8. F. G. Fairhead, D. S. King and V. D. Morshead, to No. 13 Sqdn., Andover, 22/8. J. H. Edwardes-Jones, to No. 1 Sqdn., Tangmere, 22/8. H. C. D. Hayter, to No. 43 Sqdn., Tangmere, 22/8. E. L. J. Rowe, to No. 16 Sqdn., Old Sarum, 22/8. R. G. Hennessy, D.S.O., M.C., to No. 216 Sqdn., Middle East, 26/8. M. M. Restell-Little, to No. 45 Sqdn., Middle East, 25/8. The undermentioned Pilot Officers are posted to R.A.F. Depot, Uxbridge, on appointment to S.S. Comns as Pilot Officers on probation, with effect from the dates indicated :—A. D. Bennett, 7/9. L. V. Bennett and Frank Wells, 8/9 J. A. Greenshields and D. M. Harrison, 9/9. The undermentioned Pilot Officers are posted to R.A.F. Depot, Uxbridge, on appointment to S.S. Comns. as Pilot Officers on probation with effect from 2/9 :—C. H. Appleton, B. E. Brown, M. C. Collins, T. A. D. Hetherington, H. G. Hicks, L. W. Howard, C. R. M. Kiernander, P. F. Luxton, J. E. Markby, K. C. T. Marshall, W. D. J. Michie, C. L. Myers, C. A. Pearson, H. L. Piper, J. C. K. Rogers, J. W. Smith, P. H. Smith, R. W. K. Stevens, J. C. B. Tinling, A. le R. S. Upton and J. B. Veal.

Medical Branch.—Squadron Leaders P. H. Young, M.B., to H.Q., Coastal Area, 8/9. D. McLaren, M.B., to Hospital Orderlies Training Depot, Halton, 8/9.

Flight Lieutenants G. J. Griffiths, to Basrah Combined Hospital, 13/8. J. M. Maxwell (Q.Mstr.Med.), to R.A.F. General Hospital, 'Iraq, 9/8.

Flying Officer J. M. Ritchie, M.B., to Research Laboratory and M.O.S. of I., on appointment to a S.S. Comn., 1/9.

Stores Branch.—Flying Officer C. N. Scott, to No. 2 A.C.C. and R.S., Middle East, 13/8.

Accountant Branch.—Flying Officers B. L. Blofeld, to School of Naval Co-operation, Lee-on-Solent, 26/9. A. W. Younghusband, to Home Aircraft Depot, Henlow, 15/9.

Pilot Officer J. H. Glenn, to No. 1 School of T.T. (Apprentices), Halton, 1/9.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident at Leadenham to a D.H.9.A. machine of the R.A.F. Cadet College, Cranwell, on Sept. 9, Flight Cadet Robert Spencer Beddall, the pilot and sole occupant of the aircraft, was seriously injured, and died in hospital on Sept. 10.

At the Inquest at Cranwell on Sept. 12 it was stated that the machine stalled at 500 ft. and got into a left-hand spin. A witness attributed the accident to an error of judgment.

[Obviously the machine was not fitted with either a stall-indicator or with stall-control. So this is demonstrably an avoidable accident for which the whole blame must be laid on the technical experts of the Air Ministry, who, to serve their own ends, are still standing in the way of life-saving improvements in design.—C. G. G.]

R.A.F. Cadetships.

The Air Ministry announces that an examination for the entry of flight cadets into the R.A.F. Cadet College, Cranwell, will begin on Nov. 15 when not less than 35 cadetships will be offered for competition. Application to sit for the examination should be made to the Secretary, Civil Service Commission, Burlington Gardens, W.1, but in no circumstances will completed entry forms be accepted after Sept. 28. All candidates must be fit and willing to fly and be between the ages of 17½ and 19½. Normally they will be required to produce school certificate A or B before their candidature will be accepted.

At this examination Prize Cadetships will be awarded to the first six candidates in order of merit, which will enable the recipients to complete the course at the Cadet College at a total cost of only £40, resulting in a saving to their parents of £210. The normal cost of the two years' course at Cranwell is £250, but this sum covers the cost of uniform, books, etc. Flight Cadets receive pay at the rate of 7s. a day and this should suffice with proper care to meet all expenditure for messing, games, etc., and to provide adequate pocket money. Parents are advised not to supplement this sum by a private allowance.

On passing successfully out of Cranwell, flight cadets are granted permanent commissions as pilot officers, subject to medical fitness, receiving a grant of £50 towards the cost of providing officer's uniform. The cash emoluments of a pilot officer at present amount to £274 a year and in addition free quarters, light, fuel, rations and the part services of a batman are provided. After 18 months' service they become eligible for promotion to the rank of Flying Officer with substantially increased rates of pay, the cash emoluments being about £344 a year.

Full details as to entry into Cranwell are contained in Air Publication 121 "Regulations for admission to the R.A.F. Cadet College" (price 4d. net) which can be obtained through any bookseller or direct from H.M. Stationery Office, Kingsway, W.C.2. General information as to the career offered by the R.A.F. is provided in A.M. Pamphlet 27, which can be obtained upon application to the Secretary, Air Ministry.

Our Air Attache in Berlin.

Group Captain Malcolm Grahame Christie, C.M.G., D.S.O., M.C., R.A.F., whose appointment to the British Embassy in Berlin has not yet been gazetted, but is shown in the current Air Force List as dated July 23, 1927, was born in Edgbaston, Warwickshire, and educated at Leamington Preparatory School, Malvern, and Aix-la-Chapelle, where he took the degree of Doctor-Engineer.

He learned to fly at Hendon on a Caudron biplane, and his Royal Aero Club Certificate, No. 954, is dated Oct. 27, 1914. Some time before this he bought a Blackburn monoplane, in which he did a large amount of flying round the North of England, piloted by Mr. Harold Blackburn—now Wing-Commander R.A.F., and O.C. Martlesham.

He joined the R.F.C. with the rank of second lieutenant in November, 1914, and was promoted to the rank of captain in September, 1915, and appointed squadron-commander, with temporary rank as major, in August, 1916.

In February, 1917, Major Christie was appointed to command No. 100 Squadron on its formation. No. 100 Squadron was the first Night Bombing Squadron to be formed, and was equipped with F.E.2bs. The squadron went overseas under his command in March, 1917, and later became a unit of the Independent Air Force.

Major Christie was awarded the Military Cross in June 1916, for distinguished service in the field, and the D.S.O. in January, 1917, for valuable services in connection with the war. He was appointed a wing-commander and temporary lieutenant-colonel in January, 1918, and promoted lieutenant-colonel in April, 1918.

He was created a C.M.G. in January, 1919, and was placed on the half-pay list in December, 1919. In September, 1920, he was one of the R.A.F. officers attached to the Department of the Controller of Civil Aviation.

In June, 1923, he was promoted to the rank of group captain, and from April, 1922, to April, 1926, he was Air Attaché to the British Embassy at Washington, in which station he won the highest personal esteem, with equal official respect for his technical ability, from everybody with whom he came in contact in the States.

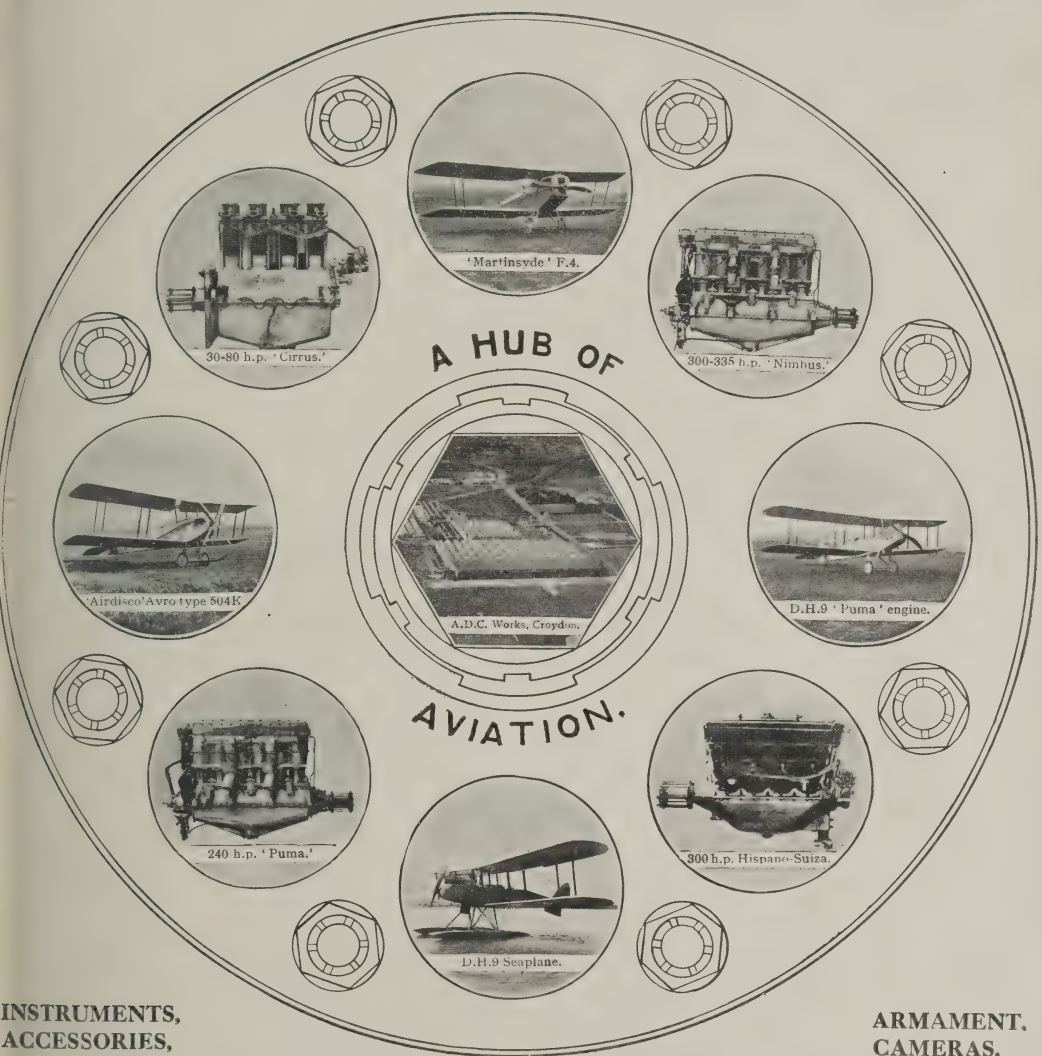
For the last two years of his tour of service in America he suffered from very bad health, undoubtedly caused by sheer over-work, and on his return to England was compelled to undergo a long rest-cure. His appointment to Berlin indicates, at any rate, considerable progress towards complete recovery.

His knowledge of engineering and his distinguished service as a military aviator will assure for him a friendly greeting in Germany, where he already has many friends.

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KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

From Finland.

Wing-Commander Roger M. Field, R.A.F., who has been seconded for duty with the Finnish Air Force, has completed his work and left for England on Sept. 7.

He has served for a period of two and a-half years in Finland, and during that period he has done very valuable work both for Finland and Great Britain. He mastered the Finnish language, and his enthusiasm for Finnish aeronautics and Finland in general won for him the confidence and affection of the Finnish Air Force, which, incidentally, was the first Air Force in the World, after the R.A.F., to be created on similar lines as a Service independent of the Army and Navy.

Troop-Carrying by Air in India.

In an article on "Air Lines of Communication" in the July issue of *The Journal of the United Service Institution of India*, Sq. Ldr. E. J. Hodsoll, R.A.F., calls attention to the fact that the R.A.F. has no troop-carrying aircraft in India, although 'Iraq has a Squadron of troop-carriers (No. 70 Squadron) and so has Egypt (No. 216 Squadron).

The writer recalls the highly satisfactory experiments made with troop-carriers for the transport of mountain guns in Egypt as long ago as 1921 and the inestimable value of troop-carriers in 'Iraq during the past few years and adds that the most that the existing types of aircraft in India can do is to transport individuals quickly from one place to another.

After discussing the prospects of reinforcing the garrisons in India from Great Britain in five days by fleets of troop-carrying airships Sq. Ldr. Hodsoll goes on to what he calls the local aspects of the problem. He says that India is such an immense country that until it is possible to organise a day and night service to and from any part of the country the full value of this newest link in the lines of communication cannot be obtained.

Ignoring the eastern frontier he calls attention to the isolated garrisons and political posts which have to be maintained all over the frontier. Chitral is given as an example to illustrate his argument. The normal garrison of Chitral and Kila Drosh consists of one section of Pack Artillery, one section of Sappers and Miners, one Indian Infantry Regiment, and some details. During the process of reliefs this column requires an escort up and down of a force approximately the same size and a supporting column of some considerable strength held in readiness to extricate the column should it get into difficulties. A large force of all arms is therefore locked up for over a month from the time the relief column concentrates prior to the march until the relieved column returns. Sq. Ldr. Hodsoll's article goes on :—

> Now suppose this relief could be accomplished by air, what would be the result? It takes one hour twenty minutes on an average to fly from Risalpur to Kila Drosh instead of 16 days by road. No escorts of any sort are required, no previous concentration is necessary except to get the troops to the aerodrome from which they will start, either Risalpur or Peshawar. We have at present no heavy transport machines in India, but suppose we had a flight of 4 "Hercules" and suppose the landing ground at Kila Drosh can be made suitable for them to land on. If each machine can take 10 men with their equipment and each machine can do three or possibly four journeys a day, we shall have a total of 120 or 160 men a day changed over . . . . There are approximately 3,400 men to be moved during the relief and at a rate of 120 a day it would take 28 days instead of 36 and would entirely eliminate the services of something like 8,000 men who would have been required for protective or support duties. Further there is no risk of interference on the part of the tribesmen *en route* and the officers and men instead of having to march for some 16 days will reach their destination in complete or at any rate comparative comfort in an hour and a-half.

Sq. Ldr. Hodsoll is working on the assumption that he has four D.H. Hercules machines, presumably with four spare machines to work with. If the R.A.F. were to give India a troop-carrier Squadron with its present equipment it would consist of 10 Vickers Victorias. At a low estimate five of these would be in operation and five in reserve. A Victoria carries 24 men with their equipment which would increase his rate of transport from 120 a day to 360 a day at least. But on the other hand the Victoria will not take off fully loaded at the high altitudes at which it would be expected to operate, for instance on the N.W. Frontier, whereas the high-powered Hercules will take off practically anywhere.

The cost of maintaining a Squadron of troop-carriers for this purpose would not be so high as the cost of the 8,000 men for the protective and support duties. Also the R.A.F. will necessarily be increased very considerably in the next few years and a Squadron does not cost more to maintain in India than it does anywhere else.

Sq. Ldr. Hodsoll adds a very important point as a logical development of his argument, that it will not be necessary to maintain so large a garrison at these outposts if reinforcements can be rushed up so quickly. He adds that, apart from this, further air forces will always be available to take immediate offensive action against any hostile factions so that the position is doubly secure.

He omits the moral effect upon the refractory tribes caused by the knowledge, not that they may be bombed at any moment, they can get used to that and learn to avoid it, but that armed troops may descend upon them without warning, a moral effect which has already been proved to be effective in 'Iraq.

Referring to the material side as opposed to the personnel side of the question Sq. Ldr. Hodsoll says :—

> The value of being able to supply a force without the need of employing enormous numbers of troops for the protection of the lines of communication needs no emphasis : the advantage of being able to transport a section of pack artillery or even a whole battery by air, from one place to another, are obvious, and it should be remembered that such a battery could be supplied with ammunition. There is no end to the possibilities that this form of communication open out and it is urged that the time is ripe, if not already overdue, when these problems should receive serious consideration in the light of modern developments.—C. M. MCA.

The R.A.F. Association of Shanghai.

A concrete example of the spirit of the R.A.F. exists in the R.A.F. Association of Shanghai, a "live" concern, composed of former R.A.F. officers living in Shanghai, who have founded their own club and have their own club-room, where they hold weekly tiffins. They also have a big annual dinner. Very few of these Air Force people had served together during the War, and most of them had never met each other until they arrived in Shanghai, yet the fact that they had once served in the R.A.F. was sufficient to band them all together.

An officer of the R.A.F. in China says that the R.A.F. Association of Shanghai are an extraordinarily nice crowd, and have been most friendly and hospitable to the R.A.F. units out there, and made them feel that they were really enormously pleased to have the privilege of entertaining the first Air Force unit to operate in Shanghai.

Apparently their only moan is that they have no aeroplanes to fly.

R.A.F. SPORTS AND PASTIMES.

Rugby Prospects.

The approach of the Rugby Football season has been heralded by a blast of trumpets in the shape of the following letter :—

> Sir,—I hope you will forgive me for addressing to you a few remarks on R.A.F. Rugger—I know you are a very keen Rugger fan or I should hardly have dared to do so.
>
> I hope the responsible officers this year will realise that the Rugger Season starts at the end of September and *not* about a week before the Service side open their programme in the first week in January.
>
> *Now* is the time to search for young players of promise—introduce them to first class clubs and enable them to get first class experience *before* the Service side needs them.
>
> As a terribly disappointed spectator of both games (v. Army and v. Navy) last year I will set out what I considered were the chief faults of the side—(it is so easy to find faults) :
>
> (i) There were too many very old men in the side.
>
> (ii) Few of the younger members of the side had had any experience of first class football.
>
> (iii) The forwards were not fit or properly trained as a pack.
>
> (iv) There was far too much talking from practically every member of the side—the captain included. The forwards were the worst offenders and until they became blown were most impressive as a chorus.—A good leader must be found.
>
> I believe a certain young Irishman is fit again this year and if allowed to combine the rôles of skipper and leader of forwards I'm pretty certain the result would be far from pleasant for the other two Services.
>
> One looks forward the whole season to the Inter-Service games. Let us hope that the "sole selector" and his many helpers will get down to it early and give us something to make it worth while losing our hats, our voices and our Temperance League Membership Cards. I enclose my card and sign myself—
>
> "Far Too Old at 30."

In the main, "Far too old at 30" is perfectly right. The importance of experience with first class clubs for prospective members of the R.A.F. representative side was emphasised in The Aeroplane at the beginning of last season and the necessity for proper training by individual members of the team was shown very forcibly at the games with Oxford and Cambridge, but as "Far too old at 30" says, the lesson had not been learned when the R.A.F. side played the Army.

The future of the R.A.F. side lies in the hands of those senior officers in the Service who are keen Rugger men, who will see that the likely talent has facilities for playing for first class clubs from the very beginning of the season.

With regard to the administration of the R.A.F. Rugby Union, one understands, quite unofficially, that important changes will take place when the general meeting is held in November. Which date seems to be two months too late for the administrative changes to have the effect required on the R.A.F.R.U. as a whole.

Apparently Group Capt. A. D. Warrington-Morris, who played for England in 1909, will take over the duties of Chairman of the Committee. Wing Cdr. C. D. Breese, the present Chairman, will also resign his position as Treasurer.

Sq. Ldr. J. C. Russell and Flt. Lt. O. C. Bryson will resign from their positions as Captain and Vice-Captain respectively although they will both be available to play for the team.



MANŒUVRABILITY.

AT THE INTERNATIONAL AIR MEETING AT COPENHAGEN ON SEPTEMBER 4TH, 1927,

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Flt. Lt. T. W. Elmhirst will again take on the job of Secretary.

Group Capt. Warrington-Morris was Captain of the Flowerdown Rugger Team which won the R.A.F. Rugby Cup in 1922, composed of one group captain, a doctor, three flight lieutenants, one flying officer and nine young aircraftmen.

Sq. Ldr. Russell played for the R.A.F. against the Navy in 1922-23-24-25-26 and 27, and against the Army in 1921-22-23-24-25-26 and 27, and was captain of the R.A.F. team from 1924 onward. He is a magnificent scrum-half, an inspired leader and a tower of strength in defence. It is to be hoped that his resignation does not mean that the overseas list has claimed him.

Flt. Lt. Bryson has also done yeoman service for R.A.F. rugger. He has played for the Air Force seven times against the Navy and six times against the Army. He has been vice-captain of the team for several years, and is a speedy and dependable three-quarter with a deadly tackle.

The R.A.F. Swimming Championships.

The second championship meeting of the R.A.F. Swimming Association was held at Holborn Baths on September 9. The referee was Wing-Commander R. J. Mounsey, O.B.E., the starter and announcer Mr. D. D. Milne, of the Amateur Swimming Association, and the judges Sq. Ldr. J. W. Woodhouse, D.S.O., M.C., Flt. Lt. C. A. B. Wilcock, A.F.C., and Flg. Off. R. Sunnocks. Mr. Milne refereed the Water Polo match.

The results of the various contests were :—

Plunging Championship.—Flg. Off. O. V. Lee (Uxbridge), 51 ft. 10 in.; L-AC. F. E. Dyer (Eastchurch), 50 ft. 9 in.

50 *Yards Championship.*—L-AC. Belcher (Shrewsbury), 28 2-5 sec.; AC. T. Brown (Halton).

100 *Yards Back-stroke Championship.*—Flg. Off. Whitehead (Shrewsbury), 1 min. 39 2-5 sec.; AC. R. T. Mulliner (Uxbridge).

Diving Championship.—AC. R. Guenin (Henlow); AC. L. Richards (No. 56 Sqdn., Biggin Hill).

220 *Yards Championship.*—L-AC. R. Morter (Martlesham Heath), 3 min. 16 sec.; Cpl. J. B. McGinn (Henlow).

440 *Yards Championship.*—AC. E. F. Letchford (H.Q., Coastal Area), 6 min. 42 sec.; Flg. Off. C. E. N. Guest (Martlesham Heath).

100 *Yards Breast-stroke Championship.*—AC. C. Nicholls (Henlow), 1 min. 26 1-5 sec.; Cpl. Kenward (Uxbridge).

100 *Yards Championship.*—AC. T. Brown (Halton) and AC. E. F. Letchford (H.Q., Coastal Area) dead-heat.

Inter-Unit Relay Race.—(1), Martlesham Heath (Flt. Lt. N. A. Jenkins, Flg. Off. C. E. N. Guest, Flg. Off. C. B. Wilson and L-AC. R. Morter); (2), Shrewsbury. Uxbridge finished first but were disqualified for boring.

Inter-Unit Water-Polo Championship.—H.Q., Coastal Area beat Shrewsbury by three goals to two.

The Coastal Area team were: Flt. Lt. C. Wilcock, AC. E. F. Letchford, Sjt. G. Drake, Cpl. A. E. Ham, Flt. Lt. J. Shakeshaft, Flt. Lt. H. Norrington and L-AC. T. Harrison.

The general standard of the swimming was very high, and nearly all the times were an improvement on last year. AC. T. Brown, of Halton, is a young swimmer of slight build who shows very considerable promise. AC. E. F. Letchford, of H.Q. Coastal Area, is a very fine swimmer, with a beautifully easy action. He won the 440 yards a length (90 ft.) ahead of the second man. One understands that he swam two-hour shifts with Mr. E. H. Temme when he swam the Channel on August 5, 1927.

It is curious to note that there was not one single competitor from the Cranwell District. Considering that not only is Cranwell fairly near the sea but it has a swimming-bath of its own, this absence of competitors from a station which should, because it includes the R.A.F. Cadet College, lead in all athletic affairs was particularly noticeable.

The meeting was well organised, and each event started to the second. An interesting exhibition of "ornamental" swimming was given by Major Griffith and Mr. Wilkinson, of the Otter Swimming Club, and Mr. E. H. Temme, the first amateur to swim the Channel, gave an exhibition of his Channel style, thereby almost causing a tidal wave in Holborn. The String Band of the R.A.F. played cheerful music when it was not interrupted by the announcer's whistle. At the end of the proceedings the prizes and medals were distributed by Mrs. R. J. Mounsey.

It is to be hoped that another year the organisers will hold the meeting at a swimming-bath where half the spectators do not get a shower-bath every few minutes.—C. M. MCA.

No. 28 Squadron, R.A.F. Reunion.

The eighth annual reunion of No. 28 Squadron, R.A.F. Old Boys' Association, will be held on October 1 at 6.0 p.m. at the White Horse Hotel, Holborn.

The Reunion will take the form of a supper at the White Horse Hotel, and members may bring men friends. Application for tickets, 3s. 6d. each, should be made to C. T. Hodges, 102, Camden Street, N.W.1.

THE ALL-METAL AIRSHIP.

Those who are interested in lighter-than-air problems will be interested to hear that the big airship shed on the Grosse Ile Airport, which is located on an island in the lower Detroit River, is now finished, and that the Aircraft Development Corporation are assembling in it the World's first metal-clad airship. This is the ship designed by Mr. Ralph Upson, the famous balloonist, some five years ago, which has been financed by Mr. Henry Ford.

The actual manufacture of the structural work is 90 per cent. done. And the constructors have now gone far enough to convince themselves that there is no doubt as to the success of the ship. If the metal airship succeeds, as one hopes it will, it will mark an immense step forward in air transport, even if it is only as efficient as the aluminium-steel-rubber-and-fabric type of ship.

The recent failures in trans-oceanic flights only emphasise the possibilities of airships for long non-stop journeys. Some of those over-loaded aeroplanes managed to get off the earth with about 15 lbs. of useful load per horse-power in addition to their own structural weight. But the average useful load of an aeroplane is less than 10 lbs. per horse-power, for most of horse-power has to be devoted largely to holding the weight of the load in the air.

In the airship, on the other hand, the useful load per horse-power increases almost in arithmetical progression. The designers of the metal-clad airship calculate that airships of five and six million cubic feet and upwards will carry a useful load of 60 lbs. per horse-power or more—and that is for a 3,000-mile non-stop flight with a 50 per cent. fuel reserve. An engineer who has had much to do with airship work calculates that on this basis an airship can compete on terms of actual money per mile with existing first-class passenger rates on ocean liners.

Those who are working seriously on airship development deserve every credit. About ten times as much money, perseverance and patience are needed to tackle the lighter-than-air problems as are needed for heavier-than-air work. Anybody can build quite an elaborate experimental aeroplane for £4,000 or £5,000. But when airships are tackled one has to think in terms of hundreds of thousands of pounds, which are very hard to get.

Furthermore, there is no room for pseudo-science or brain-storm guess-work about big airships. So they need far more genuine engineering skill and technical experience than do experimental aeroplanes. Whereas an experimental aeroplane can be crashed and a new one built in six weeks, an airship takes at the least two or three years to build. And so the generations of airships succeed one another slowly.



A SERVICE ATHLETE.—AC.1. J. R. Gordon, of No. 47 (Bombing) Squadron, R.A.F., the winner of the Challenge Trophy for the best all-round athlete at three different meetings in 17 days. AC. Gordon finished first in ten events and third in two events in the three meetings, which were No. 47 Squadron Annual Sports, R.A.F. Middle East Command Sports and the Y.M.C.A. Sports in Cairo.



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SCHNEIDER TROPHY NOTES.

America's Position.

On Sept. 9, it was officially announced that Lieut. A. L. Williams, U.S.N., had definitely decided not to participate in this year's contest. The U.S. Navy Department stated that it had been informed by Mr. Williams that it would be impracticable to complete tests adequate to warrant his embarking for Venice in sufficient time to arrive and qualify as representative of the United States.

Lieut. J. J. Bergen, U.S.N., who was to have accompanied Lieut. Williams, has left New York to attend the races

Discussing the refusal of an extension of the time limit to permit Mr. Williams to be present, Lt. Bergen is reported to have said that the action of Great Britain was far more exacting than America's would have been under the circumstances. Nevertheless, it must be remembered that when America very sportingly postponed the race owing to Great Britain being unable to be present she was the holder of the Trophy, whereas this year we are only a challenger and therefore are not in a position to give a final decision.

Similarly, at that time the Trophy was not in danger of being won outright as it is this year. Great Britain has never been in such a prepared state as we are this year, and if we win America will be able to challenge next year.

The British Team.

On Sept. 9 H.M. Aircraft-carrier *Eagle*, accompanied by the destroyers *Witch, Wren, Whitehall* and *Worcester*, left Malta for Venice, where they will remain until after the race. Five seaplanes, spares and a number of mechanics were transferred from the s.s. *Egyptian Prince* to the *Eagle*.

On Sept. 10, Sq. Ldr. Slatter, the commanding officer of the British team, made the first test flight since their arrival at the Lido on one of the Supermarine-Napier S.5 monoplanes.

On Sept. 11, the Short-Bristol Crusader, flown by Flg. Off. Schofield, stalled soon after taking off on a test flight and crashed. Mr. Schofield was taken to the Naval Hospital at Venice with injuries to the eyes and face. The machine sank and is a total wreck.

On Sept. 12, Signor Balbo, the Under-Secretary of State for Air, visited Mr. Schofield in hospital and conveyed to him the condolences of Signor Mussolini, as Air Minister, and of Italian aviators in general.

British Visitors.

Sir Philip Sassoon, Under-Secretary of State for Air, will fly to Venice in a Fairey III.F piloted by Flt. Lt. A. G. Jones-Williams, M.C., of 100 Squadron.

A number of private owners are intending to fly to Venice and it is expected that over a dozen machines will be used.

A meeting of the Advisory Committee of the British team will be held on Sept. 18 to nominate the British pilots and machines for the race.

Prohibitions at Venice.

For the benefit of those intending to fly to Venice the Air Ministry has issued the following Notice to Airmen (No. 73) :—

1. Information has been received from the Italian Government that the aerodrome at Venice (San Nicolo di Lido) has been closed to air traffic until after the Schneider Trophy Race.

2. Pilots wishing to proceed to Venice by air in connection with this race should utilise the aerodrome at Padua, details of which are given below.

3. Padua Aerodrome.—*Postion.*—Lat. 45° 24′ N., Long. 11° 51′ E. Situated 37 kms. W. of Venice and 2 kms. S.W. of centre of Padua. *Description.*—600 x 400 metres. Altitude 39 feet. Surface believed to be flat but muddy in wet weather. *Accommodation.*—Hangar accommodation is limited.

This is a very sensible regulation. There would have been great danger in allowing slow civil machines to cavort round the Lido while the speed machines were in the air.

The Schneider Course.

The course for this year will be over a distance of 50 kilometres, seven times round, making 350 kilometres in all.

The start will take place from in front of the Excelsior Palace Hotel at the Lido, toward the Port of Malamocco (Alberoni); from here, turning slightly to Chioggia, thereupon turning at an acute angle toward the port of S. Nicolo, from S. Nicolo to the Excelsior and again over the same route, finishing at the Excelsior.

There will be grand stands erected at the Excelsior, a portion to be reserved for the civil and military officials present and another section for the guests of the hotel.

A restaurant and buffet service will be available and everyone will be able to follow each minute of the race by means of the installation of loud-speakers and score-boards.



OUR RIVALS.—The Italian Team for the Schneider Trophy Contest, 1927. From left to right: Capt. Guasconi, pilot; Engineer Castoldi, the brilliant designer of the Macchi Racers; Major de Bernardi, team leader, pilot, and winner of the Trophy last year; General Adriani, and Col. Tacchini, of the Schneider Committee; Capt. Ferrarin, the hero of the great flight from Italy to Tokio in 1920, and Capt. Guazzetti, pilots.

(Photograph by courtesy of "Aeronautica.")

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THE TRANS-OCEANIC FLIGHTS.

The American Venture.

On Sept. 6 at 13.23 hours (Eastern Summer time) the Fokker F.VII monoplane (Jupiter engine), named "Old Glory," left New York to fly to Rome. The pilots were: Mr. Lloyd Bertaud and Mr. James Hill, with Mr. Payne, a New York journalist, as passenger.

At 04.09 hours on Sept. 7 her wireless was heard sending an S.O.S. signal, which was received by the *Carmania*, the *Transylvania*, the *Lapland* and the *California*. The position of the "Old Glory" was estimated at 49.50 degrees North and 41.15 degrees West.

The *Carmania* and the *Transylvania*, who were nearest to that position, altered course to search for the aircraft. At 10.30 hours the captain of the *Transylvania* wirelessed to the Cunard Offices in New York:

I have searched an area of 30 miles at this position without results. I am now proceeding towards the point at which the aeroplane was sighted by the *California* this morning. I have advised all ships.

The *Transylvania* reported her position as near that point with rough, but not stormy, sea. The *California* had sighted the "Old Glory" at 00.57 hours 350 miles East of St. John's, Newfoundland. Earlier messages from Bertaud, sent apparently while Hill was flying the machine, had reported good speed and all well, except that in a message to his wife he said that the ship was heavy.

The captain of the *Carmania*, soon after the S.O.S. had been received, reported that he had been steering due North to a point where it was calculated that the "Old Glory's" course would cross the course which he was taking, and added that visibility was then full range with a fresh westerly wind and moderately rough sea.

On Sept. 8 the *Transylvania* and the *Carmania* reported that they had given up the search and resumed their courses and the captain of the *Transylvania* reported that there was little hope of survival in view of the rough seas at the time of passing.

On that date the *American Trader*, the *Nova Scotia* (of the Furness Line), the U.S. Shipping Board freighter *Capulin*, and the *California* were still searching for the aircraft.

The "Old Glory" venture was backed by Mr. William Randolph Hearst, of *The New York American* group of newspapers.

On the night of Sept. 7 he issued copies of correspondence between himself and Mr. Philip Payne, the passenger on the machine, to show that Mr. Payne's impetuosity had overridden his remonstrances. *The Times* correspondent in New York, in reporting this, states that Mr. Hearst is particularly concerned over the fact that this is the second flying expedition which he has backed which has ended fatally. He has offered a reward of 25,000 dollars to the captain and crew of any vessel rescuing the crew of the "Old Glory."

Wreckage from the machine was picked up by the search steamer *Kyle*, about 100 miles North of the S.O.S. position.

The Canadian Ventures.

On Sept. 7 a Stinson Detroiter (Wright Whirlwind engine) named the "Sir John Carling," left Harbour Grace, Newfoundland, at 13.25 hours (Greenwich time), for London (England) having started from London (Ontario). The crew, as stated in the last issue of THE AEROPLANE, were Mr. J. B. Tully and Mr. J. V. Metcalf.

Under normal circumstances the machine would have been due at Croydon some time on Thursday. As nothing has since been heard of it the assumption is that it also came down in the Atlantic and was lost.

The Committee in charge of the projected Windsor, Ont., to Windsor, England, flight, which was to be undertaken by Messrs. Schiller and Wood on a Stinson monoplane, have instructed the pilots to abandon their attempt.

They have been asked to return from Harbour Grace, Newfoundland, to Windsor to discuss the possibility of entering for the New York—Spokane Derby across the United States in connection with the 1927 U.S. National Air Races.

A Possible Explanation.

The Aeronautical Correspondent of *The Times* reported on Sept. 9 an ingenious possible explanation, put forward by a meteorological officer, of the disappearance of the various aircraft which have attempted to fly the Atlantic. In disturbed air conditions, such as have prevailed lately, there is the possibility of sudden and violent alterations in barometric pressure which would naturally falsify the reading of an altimeter set at the start of a flight for a certain barometric pressure. Thus the pilot might be only a little above the water while his altimeter might indicate a height of hundreds of feet.

If at night or in cloud he put the nose of the machine down, under the impression that he had ample height, the machine might easily hit the water before the pilot knew that he was so close to the sea. Pilots are naturally aware of this possibility, but a pilot might not expect such wide variations as are sometimes met over the Atlantic.

Mr. Courtney's Flight.

A cable from Mr. Frank Courtney from Corunna on Sept. 12 says that he has been compelled to abandon his projected flight to New York by way of the Azores.

One is delighted to hear it. Mr. Courtney is far too valuable an asset to British Aviation to be wasted on a flight of this sort. One's only regret is that he should have wasted so much of his valuable time on it already. But that was not altogether his fault. If the machine on which he endeavoured to make the flight had performed up to specification, he would probably have got across the Atlantic all right and without any undue risk, seeing that he had a flying-boat, and that when he first got it the weather was comparatively fine.

The "St. Raphael" Loss.

As no news has been received of the Fokker monoplane "St. Raphael," which was missing on Sept. 1, the assumption is fair that the crew have been lost.

Sq. Ldr. F. F. Minchin, C.B.E., D.S.O., M.C., Reserve of Air Force Officers, was more generally known as Lt.-Col. Minchin, that being his rank when he left the R.A.F. after the Armistice and before he joined the R.A.F.O. He was the son of a distinguished soldier residing in the County Tipperary, and, one believes, was in the Army before the War 1914-18.

He learned to fly at Eastbourne on a Bristol biplane and his Royal Aero Club Certificate, No. 419, is dated Feb. 18, 1913.

In 1916 he held the rank of Lieutenant in Princess Patricia's Canadian Light Infantry and was attached to the Royal Flying Corps with the temporary rank of Captain.

He was awarded the Military Cross on May 31, 1916. *The London Gazette* of that date states:—

For conspicuous gallantry and skill on many occasions, notably when leading a successful bomb and machine-gun raid on a force of the enemy which he had located overnight. Next day he took part in two other raids. During these operations he flew for 13 hours over enemy country.

In *The London Gazette* of Nov. 25, 1916, he was awarded a bar to his Military Cross. The wording of this *Gazette* was:—

He flew 150 miles at night to bomb an enemy aerodrome, descending to 500 feet and doing serious damage. On another occasion he landed 45 miles from our line to pick up the pilot of a damaged machine in a hostile country.

On Jan. 1, 1917, Major Minchin was appointed to command No. 47 Squadron, R.F.C., then operating in Macedonia. He held this command until Mar. 13, 1918. He was awarded the D.S.O. for his services in this Command. Later he commanded a wing of the R.A.F. in Kent, under the London Air Defence Area.

Lt.-Col. Minchin retired from the Royal Air Force in 1919 and was appointed to the Reserve as a Squadron Leader in January, 1924.

In 1924 he joined the staff of Imperial Airways and was one of the pilots engaged in surveying the air route to India.

In June and July, 1926, Sq. Ldr. Minchin was the pilot of the Bristol Bloodhound (Jupiter Mark VI) which flew from Croydon to Cairo. This flight was the sequel to an endurance test made under official supervision which covered a total distance of 25,000 miles in 225 hours,—in which test he and the late Frank Barnard shared the flying.

Everybody liked Sq. Ldr. Minchin, he had much personal charm and a kindly nature. He was admired for his skill and courage as a pilot. And during the War 1914-18 he proved himself to be a very good commanding officer. But, somehow, in civil life, he seemed to fail to find a job worthy of his war record or of his social position.

Personally he struck one as a man possessed by some constant sadness, so perhaps his end has been welcomed by him. At any rate he died in the course of a great adventure, in which—as those who knew him will agree—neither vanity nor the desire for gain had any part.—C. G. G.

Mr. Leslie Hamilton, M.B.E., D.F.C., was an instructor and test-pilot in the R.A.F. until December, 1924. Since then he has been a professional aviator, hiring himself and any machine which was under his control for voyages to various parts of Europe. He was a skilful aviator, and a capable cross-country pilot.

The Princess Ludwig Lowenstein-Wertheim was the Lady Ann Savile, daughter of the fourth Earl of Mexborough. She married a German prince. Before the War 1914-18 she appeared on several occasions in connection with aviation, and since then she has hired sundry aeroplanes for public events, generally with Mr. Hamilton as her pilot.

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GROSVENOR CUP.

Westland Widgeon (Genet Engine), **3rd.**

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The same machines were the ones which took part in the PELHAM STAKES and the GROSVENOR CUP.

CONCLUSION.—

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A NEW CANARD.—Recent recruits to aviation have probably never seen a tail-first aeroplane of the type which was known in the early days as a "Canard,"—so-called because the front elevator projected forward like the head and neck of a duck when flying. In spite of the second meaning of the word canard such a machine does actually exist to-day. It has been produced by the Focke-Wulf Company of Bremen, who have hitherto built machines of normal type. This machine, illustrated herewith, is known as the "Ente," which also means duck.

The one great advantage of this type of machine is that it is absolutely stable fore and aft. Apart from that it appears to have every possible disadvantage. To get the side area right in relation to the centre of side pressure an enormous fin and rudder is necessary at the back. And when turning the whole of the front elevator and the attached body work has to be swung sideways through the air, thus setting up all kinds of queer side pressures.

The first machine known as a "canard" was built purely as an experiment by the Voisin firm somewhere about 1910 and the type existed in various forms until 1911. But, in fact, the original Wright biplane, several experimental Bleriots, and the British Valkyrie, built by Mr. Horatio Barber, were all of the canard type and were all failures because of the difficulty of adjusting side areas.

The Ente is at any rate an interesting experiment, and after all, we know so little about aerodynamics that possibly somebody may some day make a canard machine which works.

THE ROUND THE WORLD FLIGHT.

On Sept. 7 at 06.25 hours, Messrs. Brock and Schlee left Calcutta on their Stinson monoplane *Pride of Detroit* for Rangoon, where they arrived in the afternoon. Soon after leaving Calcutta they flew into a storm and were compelled to go with it, off their course. They followed the coast down the Arrakan range of mountains, which were thickly covered with low clouds, until they found a gap low enough to fly through. All the way to Rangoon they flew through rain squalls.

On Sept. 8 at 06.30 hours they left Rangoon for Bangkok, but they did not land there, as, finding that they had made such good time and had plenty of petrol, they carried on to Hanoi where they landed at 18.15 hours. Low-lying clouds forced them down to 15-20 feet over the mountains, but they never had a moment's fear of a forced landing.

On Sept. 9 at 07.00 hours they left Hanoi for Hong Kong where they arrived at 15.25 hours. They were expected at midday and an R.A.F. seaplane went up to meet them and guide them to the landing ground. After circling round for three hours over a radius of thirty miles the III D. returned and another machine of the same type resumed the search. At 15.15 hours the *Pride of Detroit* came into sight and after circling round twice made a perfect landing on the R.A.F. aerodrome at Kai Tak.

On Sept. 10 at 06.25 hours they left Hong Kong and arrived at Shanghai, a distance of 770 miles, at 18.15 hours. They were escorted all the way from Hong Kong by three R.A.F. seaplanes.

On Sept. 11 at 05.45 hours they left Shanghai for Tokyo but they were forced to land at Omura, near Nagasaki, 500 miles from Shanghai at 17.45 hours with no more petrol left.

In deference to public opinion the Detroit Board of Commerce has cabled to the crew of the *Pride of Detroit* strongly urging them to abandon the difficult flight across the Pacific.

Similarly friends and relatives of the two pilots have appealed to the Acting Secretary of the U.S. Navy, Mr. Robinson, asking him either to furnish a Naval patrol across the Pacific or to forbid the pilots to make the crossing. He has replied that, while he is in sympathy with their proposal, he is without authority to act.

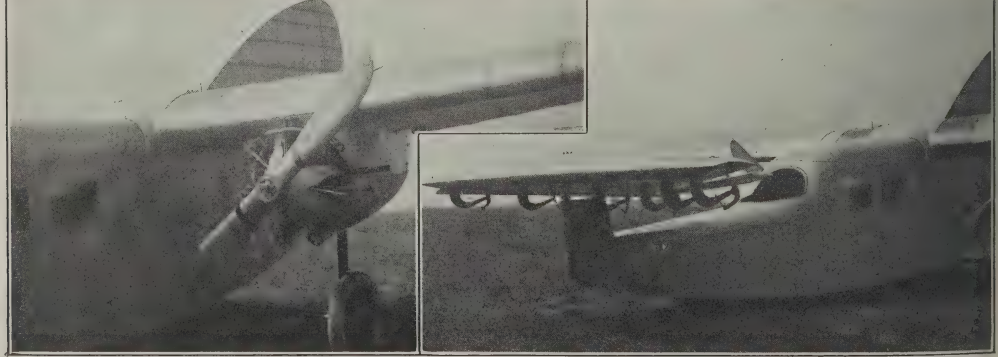
THE AMERICAN NATIONAL AIR RACES.

The 1927 National Air Races are to be held in Spokane, Wash., on Sept. 23-4. These races will be preceded by the Spokane Air Derby, which will take the place of the On-To-Wherever-It-Happens-To-Be contests which have been the preliminary features of all previous National Air Meetings.

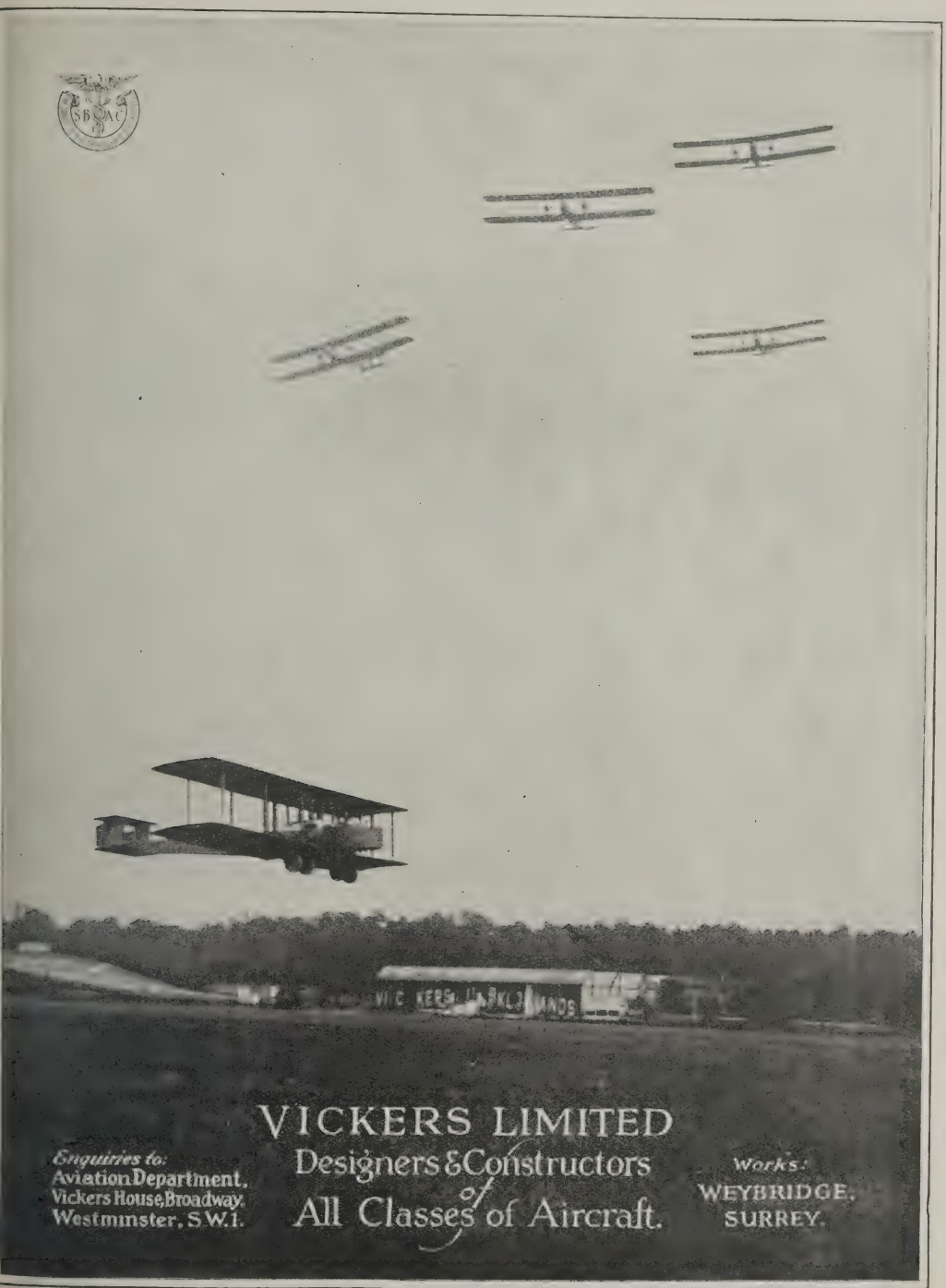
The Spokane Air Derby will be divided into two, one to start from New York and one from San Francisco, both of which are due to finish at Spokane on Sept. 21. Entries in both Derbies will be divided into two classes on engine-power, and will consist solely of standard type commercial aircraft.

There will be twelve other events spread over the two days of the meeting, and a total entry of 111 has been received for all the events.

The prizes amount to £10,000.—Think of it, ye Committee Men of the Royal Aero Club!



CORROBORATIVE DETAILS.—The Wing-Engine arrangement, and the long neck and elevator of the canard, called the "Ente," produced by the Focke-Wulf firm.


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RESEARCH AND PROGRESS.

[The Report of the Aeronautical Research Committee for the Year 1926-27. 55 pp. H.M. Stationery Office. 2s.]

If the amount of time and energy expended by the Aeronautical Research Committee in discussing and investigating the more important problems of aeronautics were effectively reflected in the progress of practical aircraft construction, we should by now be far on the road towards producing really safe, really efficient and really economical aircraft.

Unfortunately what happens is that the Committee goes on discussing and recommending and nothing in particular seems to happen. This is not so much the fault of the Committee itself as of the system of which it forms a small part.

Take as an example the question of control at speeds in the neighbourhood of the stall to which the Committee has given much attention during the past few years. It is one thing to devise say a slot and aileron control which fitted to a specific machine gives satisfactory control at the stall. It is quite another thing to find out enough about slot and aileron controls to justify the drawing up of rules and regulations applicable to all types of aircraft, making the use of such a control compulsory.

Air Ministry policy aims at securing safety in the air by the control of design in detail. The effect of this policy is to make the average aircraft designing firm look on the official standards of airworthiness as a maximum which they cannot reasonably be expected to exceed, rather than as minimum requirements, and consequently there is relatively little initiative displayed in the effort to produce machines of a still higher standard of safety.

The Air Ministry cannot enforce the use of such a device as the slot and aileron control on all aircraft until it is in a position to show that it can be thus universally applied. Therefore the Research Committee has to go on year after year researching into the subject in the minutest detail, before the device itself can be put into extended service.

The real reason why progress in aeroplane design is so slow is that too few new aeroplanes are actually built. The Air Ministry is so terrified lest someone should occasionally produce a really dangerous aeroplane that they have made it extremely difficult to build any aeroplane at all. The few that are built are so like all those before that very little is learned from them, and as a result Britain can boast of one of the finest research organisations, together with one of the smallest and most expensive of the Aircraft Industries of the World.

Having said this there is not a great deal more to be said concerning the Annual Report for 1926-27, which has just been issued by the Aeronautical Research Committee,—erstwhile the National Advisory Committee for Aeronautics. It is an exceedingly interesting document for the technically-minded, but contains little that will be news to the technically well-informed

As may be expected, a large amount of space is devoted to the problems of control at low speeds. The Committee reiterates its belief in the value of slot and aileron control and in the adoption of rudders of ample size. It is alive to the fact that other methods of securing the desired end may be effective, and refers encouragingly to the Hill Pterodactyl and the Autogiro in this connection. [Which shows the difference between the mind devoted to theory and the mere practical mind. Also, if the Committee has ceased to be Advisory and is now devoted to research, its business is to discover facts and not to advise on theories.—Ed.]

Its attention has been drawn to the alleged virtues of the Fokker monoplane and it has investigated the characteristics of that machine. As a result it states :—

"The main feature of the machine would appear to be the relative weakness of the fore and aft control in consequence of which it is difficult to bring the machine up to the stalling attitude. At and above the stalling angle the flying characteristics are no better than those of a normal aeroplane of the same rudder volume, but on account of the thick wing the pilot receives more warning of the approach of a stall than he does when thinner wings are used."

It might be assumed from this statement that the Fokker has inadequate elevator control, and anyhow has no special virtues. But the Fokker notoriously has both light and effective controls for all normal flying, and it is a virtue of the particular design that a control which is entirely satisfactory for all legitimate purposes should be relatively ineffective in producing a stall.

There is no particular difficulty in designing a machine with elevators and elevator gearing such that it cannot be stalled at all. If by use of the characteristics embodied in the Fokker this state of affairs can be made to coincide with satisfactory elevator control at all normal speeds, the problem of the safe commercial aeroplane will have been very largely solved.

It can be said with fair certainty that an elevator control which is adequate for all flying purposes, but which is incapable of stalling the machine is perfectly possible, and calls for the use of no complicated mechanism or gadgets. It is largely a question of careful aerodynamic design, but it is perhaps not possible of achievement except in a monoplane.

Until such time as aeroplanes immune from the dangers of a stall are in general use, the Committee suggest that some form of warning to the pilot by means of instruments of the approach of a stall should materially reduce the number of serious accidents. This should help to encourage the proprietors of the Savage-Bramson stall indicator.

The prevention of fire after a crash is a subject still under earnest consideration. The use of a fireproof bulkhead between the engine and the body in the case of single-engined types is effective in reducing the number of fires very notably. In multi-engined machines there are few data as to the best methods of safeguarding against fire and the Committee can only suggest that wing tanks should be so placed that leaking petrol cannot fall near a hot exhaust pipe, and that the possibility of petrol collecting where it might readily be ignited should be avoided.

The Air Transport Sub-Committee having had its attention drawn to the merits of the pusher type of aeroplane as a method of reducing noise and discomfort in the passenger space, enquired of the Design Panel if there was any reason to expect any considerable falling off in the efficiency of air screws if a pusher type were developed. After a preliminary examination of the problem the Design Panel replied that provided efficient nacelles were designed there is no reason why pusher airscrews should be less efficient than tractor ones —which does not seem overwhelmingly enlightening.

Presumably now nobody will think of building a commercial pusher machine in this country until the Design Panel has carried out its proposed "further discussion" of the subject and has come to some definite conclusion,—say in three years' time. Then some one will build one,—either because he believes in the conclusion, or because he desires to prove it erroneous.

The more one reads of the efforts of these singularly able and well-meaning people and the more one observes how little forrarder things really get for all their efforts, the more one is disheartened by the state of British Aeronautics.—W. H. S.

AERONAUTICS WITHOUT TEARS.

["The Conquest of the Air." By C. L. M. Brown, M.A. 124 pages, eight illustrations, index. Oxford University Press. 2s. 6d.]

The author of this book, Mr. C. L. M. Brown, M.A., is a Education Officer to No. 4 Apprentices' Wing, R.A.F., Halton. In his Preface to the book Mr. Brown says :—"The facts and incidents that form the material of this story have been described more comprehensively and in greater detail in other works, and it is scarcely necessary for the author to acknowledge the obvious debt he owes to the research of previous historians of aeronautics."

"The Conquest of the Air" is a careful and well-written summary of the early history of aeronautics from the point of view of its significance in the evolution of the effective aircraft of to-day. Mr. Brown has quoted freely from "The History of Aeronautics in Great Britain," by J. E. Hodgson and other authoritative books, and in every instance the quotation has been duly acknowledged. This rather adds to than subtracts from, the value of Mr. Brown's book, because it allows the student of aeronautics to get the essence of his subject without spending an undue amount of time and money on the other books, some of which are prohibitive to the ordinary reader on both counts.

Unlike so many "short histories," which are usually a mass of indigestible facts, Mr. Brown's book is delightfully written and has a distinct strain of humour running through it.

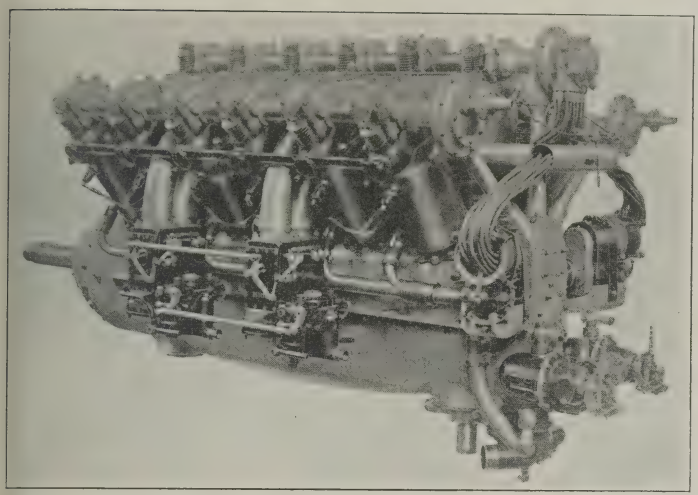
The book begins with a chapter on the Pre-Scientific Period, with its legends and folk-tales, and ends with the first successful flights in heavier-than-air machines by the Wright brothers and the early trials of the airships in the beginning of the present century. It is quite the best and cheapest book on the subject that has yet been produced.—C. M. Mc.

SCIENTIFIC INACCURACIES.

["The Book of the Aeroplane." By Capt. J. Laurence Pritchard, late R.A.F., Fellow of the Royal Aeronautical Society and Hon. Secretary of the Royal Aeronautical Society. 255 pages with 58 illustrations. Longman Green and Company. 7s. 6d. net.]

When a scientist sets out to give instruction one expects him to be scientific. But those who have much knowledge of scientists, whatever they may expect, know that they are

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1926.

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Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

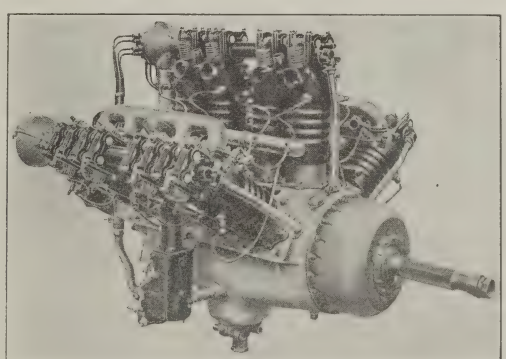
Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris—Rome—Tunis—Casablanca—Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs. 45 mins.

1927.

Across Africa. Capt. De Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h.p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h.p.). 2,565 kms. in 17 hrs. 30 mins.



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likely to be disappointed when a scientist sets out to impart general information and departs from the manipulation of his beloved figures and formulæ.

One does not quite understand whether the "Book of the Aeroplane" is intended to be a boy's book of aircraft or whether it is really meant to be a serious text-book of the history of the aeroplane. No doubt Capt. J. Laurence Pritchard meant well. But what he has produced is a kind of aeronautical Irish Stew made up of bits and pieces.

The mistakes which Capt. J. Laurence Pritchard makes are precisely those which one would expect from a scientist who was so wrapped up in figures that the mere correct use of words and titles was a secondary consideration. For example, he writes of a £10,000 prize offered by Messrs. Michelin, the Michelin tyre people, when, in fact it was presented by M. Louis Michelin himself personally. He talks of the Sopwith Snipe as "a biplane fitted with an A.B.C. engine," whereas the Snipe, in fact, was never fitted with an A.B.C. engine but was fitted with the famous B.R.2, Bentley Rotary, an engine which he never even mentions.

Of the Rolls-Royce Falcon, which made the Bristol Fighter what it was, the machine which did more than any other to win the command of the air by the end of 1917, he says, after writing of the Eagle, "Early in 1916 the Rolls-Royce Company produced a smaller engine to supply the demand for a low-powered engine on training machines" and lets it go at that, after merely stating that the power grew to nearly 280 h.p., leaving the reader with the impression that the Falcon was only suitable for training machines.

He includes among his engines the 500 h.p. Galloway Atlantic, which, so far as one can discover, has never flown except during the last few years in that quaint American machine, the Remington Burnelli. And then he goes on to say, "Another remarkable engine was the American Liberty," just as if the Atlantic had done Service in the War similar to that done by the Liberty.

He writes of the A.B.C. Wasp and Dragonfly being made by Walton Motors, when, in fact, they were really made by A.B.C. Motors Ltd. and had practically ceased to be made when the firm was changed into Walton Motors Ltd.

He writes of the British and Colonial Aviation Company, when its proper name was the British and Colonial Aeroplane Co. Ltd. He spells de Havilland with one "l" and Junkers as Junker's. He writes "Another highly efficient series of war planes were those made by the Aircraft Manufacturing Company, Ltd., the D.H.'s, particularly the D.H.5, a single-seater fighter," when, as a matter of fact the D.H.5, the back-staggered single-seater with a rotary engine, was the one and only aeroplane that ever went out under the name of de Havilland, which was not of the first class.

Writing of the Green engine, he says, "It was with one of these engines that Colonel Moore Brabazon won a prize of £1,000 for the first circular flight of a mile in England in 1909," whereas, in fact, Mr. J. T. C. Moore Brabazon had at the time no idea of ever joining the Army and did not become a Lieut.-Colonel until some nine years later.

He writes of the big Fairey N.4 flying-boat as the Atlanta I, when in fact her name is the Atalanta. And in one place he calls the big Vickers flying-boat the Valencia and in another place the Valentia.

Writing of "The Great Airways of the World," he mentions the Perth—Derby Service in Western Australia, but omits to mention the Queensland and Northern Territory Aerial Services Ltd., which, though not quite so old, is at least equally efficient.

The whole book seethes with inaccuracies of such kinds. If it had been the work of a mere Fleet Street journalist, one would not have wasted time in picking holes in it. But, having been issued as the work of a Fellow of the Royal Aeronautical Society, and the Honorary Secretary of the Royal Aeronautical Society itself at that, one feels that such slip-shod work should not be passed unnoticed.—C. G. G.

MUNITIONS OF ARGUMENT.

["The Remaking of Modern Armies," by Capt. B. H. Liddell Hart. 312 pages and index. 10s. 6d. net from Aeronautics Ltd., 14, Bream's Buildings, E.C.4.]

Capt. Liddell Hart has based his latest book, "The Remaking of Modern Armies," on Napoleon's maxim: "The strength of an army, like the quantity of motion in mechanics, is estimated by the mass multiplied by the velocity." He considers that unless a speedy remedy is found for what he calls the "mass minus velocity" condition. [The arithmetical simile seems to be a bit mixed.—Ed.] of modern armies, the outbreak of the next war will find the nation doomed to a more complete repetition of the paralysis of the War 1914-18.

Capt. Liddell Hart is so completely an advocate of mobility that the unthinking reader is liable to be drowned in the flood of his mobility of thought. Practical considerations are swept away on the sea of his enthusiastic theories and their supporting arguments. The machine-gun is his nightmare and his solution to the problem is to turn all infantry into a swift and mobile striking force by the use of armoured mechanical transport.

He claims, with a certain amount of justification, that the sight of a string of fast cross-country motor vehicles crawling behind a 2-3 m.p.h. column on foot is as painful an anachronism as it is a pitiable waste of mobile vehicles. But in his vision of a colossal tank army he has disregarded the essential variety of the work of the British Fighting Forces all over the World, the inevitable delays of experiment and improvement, and, coupled with the latter, the eternal grinding heel of His Majesty's Treasury.

All these arguments against Capt. Liddell Hart's Army of a Dream have been continually impressed, with painful thoroughness on other people's Dream of an Air Force.

In addition to these considerations, in turning his army into a fleet of land battleships, Capt. Liddell Hart has forgotten to supply it with a landing-party. And, in spite of the increasing possibilities of the tank and its relatives for advancing on objectives and occupying territory, the last word in warfare must still lie with the individual.

Unlike so many military writers, Capt. Liddell Hart does not lay much stress on the inclusion of aircraft in his mechanicalised army. He is content to leave the Air Force to "conduct its manœuvres in its damned tinker fashion." Generally speaking, military writers treat aircraft as a pre-war joke, a 1914-18 necessity and a post-war expensive mania of debatable value. But Capt. Liddell Hart considers aircraft mainly in the light of the moral effect on a nation of aircraft attack on a large scale.

He admits, however, that the possibilities of the aeroplane as a tool for striking at the enemy command is even more far-reaching than the tank. He considers that a modern civilised state offers a target highly sensitive to a sudden and overwhelming blow from the air and that consequently victory will lie, not with the side which wastes time searching for the armed forces of the enemy, but with the side which first gains the moral objective.

Capt. Liddell Hart's book is necessarily sketchy. He has covered an immense amount of ground and has dealt with historical facts as well as with the possibilities of the future. But it is a valuable book if only for the discussion it will provoke.—C. M. McA.

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[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Sept. 11.

Flying time 36 hr. 25 min. *Instruction* 21 hr. 15 min. *Soloists* 10 hr. 10 min. *Passengers* 5 hr.

Instruction.—With Mr. F. G. M. Sparks—P. W. Hoare, G. Black, E. A. Lingard, H. Solomon, Miss Fletcher, L. Martin, R. G. Whalley, F. Clarkson, S. O'Hara, E. K. Brodrick, J. H. Veasey, Lady M. Douglas Hamilton, G. W. Hall. *With Mr. S. L. F. St. Barbe*—E. L. Clarke, S. H. Simon, L. G. Sykes, G. E. Clair, J. Bickley, G. Lyon, L. M O'Connor, E. A. Lingard, H. S. Greenland, G. W. Hall, E. K. Brodrick, A. S. Richardson. *Soloists.*—O. J. Tapper, C. E. Murrell, A. R. Ogston, J. C. Horton, W. Hay, M. L. Bramson, J. H. Saffery, C. H. Swan, P. W. Hoare, G. M. Randall, Miss O'Brien, D. H. P. Esler, B. B. Tucker, E. S. Brough, G. C. Bonner, J. H. Veasey, J. J. Hofer, *Passengers.—With Mr. F. G. M. Sparks*—A. Fowler, R. Hayes, Miss Terry. *With Mr. S. L. F. St. Barbe*—A. Fowler. *With Mr. W. Hay*—R. Hayes, A. Fowler, J. J. Hofer, J. D. Lloyd, T. W. O. Richardson.

Liverpool Aviation Meeting.—The Committee has decided to enter a D.H. Moth and the Bristol Brownie for the various races at Hooton Park, Liverpool, on Sept. 24. The selection of the Pilots is left in the hands of Major K. M. Beaumont and Mr. N. H. Jones.

Air League Challenge Cup.—To commemorate the winning of the Air League Challenge Cup the Committee has decided to present replicas of the Cup to the Club's representatives, Mr. N. H. Jones, Mr. W. Hay and the Hon. Lady Bailey, who took first, second and third places respectively.

Accommodation at Stag Lane.—The Committee has for some time had under consideration the question of improving the facilities for members at Stag Lane. The De Havilland Co. have recently acquired additional ground and it is shortly proposed to move all the buildings in front of the works to this new site. This includes the Club's sheds. When this work is carried out the question of additional accommodation will be considered.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Sept. 10.

Flying time 34 hr. 40 min. *Instruction* 13 hr. 20 min. *Soloists* 11 hr. 15 min. *Passengers* 8 hr. 45 min. *Test* 1 hr. 20 min. *Instruction.—With Mr. Brown*—Messrs. Sykes, Browning Taylor, Fallon, Allott, Brooking, Cohen, Ruddy, Pattrieoux, Kinsley, Schofield, Wyler, Tweedale, Meades, Riley, Wilson *With Mr. Cantrill*—Messrs. Cohen, Brooking, Riley, Allott, Browning, Wyler, Rowley. *With Mr. Scholes*—Messrs. F. Scholes and Fallon. *Scloists (under instruction).*—Messrs. Rowley, Anderson, Harber, Fisher, Meades, Caldecott and Miss Baerlein. *Pilots.*—Messrs. Williams, Costa, Leeming, Twemlow, Gattrell, Ward, Agar and Michelson. *Passengers.—With Messrs. Brown, Cantrill, Scholes, Goodfellow, Leeming, Twemlow, Costa, Lacayo, and Nelson*—Mrs. Louisson, Mrs. Holden and Mrs. Longworth, the Misses Anderson, Emery, Browning, Rodman, Longworth and Nation, Messrs. Edge, Jackson, Thorpe, Papadopulos, Dyson, Scholes, Rose, Eastwood, Dearnley, Rowley, Longworth, Fallon, Lowe, Fisher, Mills, Caldecott and Emery.

Liverpool Civic Week Air Pageant.—Hooton Park Aerodrome, Sept. 24. To stimulate entries it has been decided that private owners shall be eligible to fly on their own machines in the inter-club members' race, provided they enter on behalf of their club.

The London and Midland Clubs have, we understand, definitely entered, but no reply has yet been received from Newcastle, Hampshire and Yorkshire. We have supported the meetings of the two latter and hope that they will be able to reciprocate, even if only to the extent of sending a machine over to "show the flag," as the Bristol and Wessex Club is very sportingly doing.

We are still without any definite promise of Air Ministry support in the shape of modern types of service aircraft. With Liverpool and the Mersey-side trembling on the edge of becoming really air-minded, even to the extent of spending large sums of money on equipping a flying club and a first-class aerodrome suitable for an air-port, it will be in the nature of a tragedy if none of our modern Service types are there to impress the good Mersey-siders.

Entries from the Trade are promising. As it is said that £8,000 has already been subscribed or promised towards the formation of the proposed Mersey-side Flying Club, and as half the profits of the Air Pageant go towards the same purpose, there is every reason to hope that the Light Aeroplane manufacturers will reap the benefit of their enterprise in this respect.

The Newcastle-upon-Tyne Aero Club.

[Sec.: Alex. H. Bell, Cramlington Aerodrome, Northumberland]

Report for week ending Sept. 11.

Flying time 24 hr. 45 min. *Dual* 11 hr. 30 min. *Soloists* 6 hr. 5 min. *"A" Pilots* 6 hr 5 min. *Tests* 35 min. *Passengers* 30 min. *Instruction with Mr. Parkinson.*—Messrs. Rasmussen, L. Middleton, J. Middleton, Sadler, McDougall, Maxwell, Ferguson, Horn, Dr. Alderson, Messrs. De Pledge, Griffiths, Turnbull, Hayton, Fairless, Lawson. *Soloists.*—Rasmussen, L. Middleton, J. Middleton, Wardill, Shaw, McDougall, Wilson. *"A" Pilots.*—Messrs. R. N. Thompson, W. Baxter Ellis, Jewett, Mrs. Heslop, Miss Leathart, Messrs. Heppell, Turnbull and A. Bell. *Passengers.—With Mr. R. N. Thompson*—The Masters Robson. *With Mr. W. B. Ellis*—Mr. Urwin. *With Mr. J. D. Parkinson*—Mrs. Fairless and Mr. Bulmer. *With Mr. A. H. Bell*—Mr. Hayton, Mr. Nash. *With Mr. Simpson*—Mr. Maxwell.

One whole day each of wind, fog and heavy rain have seriously interfered with flying, in addition to bad weather on other days.

On Saturday three privately-owned Moths were on the aerodrome at one time, those of the Marquess of Clydesdale, Lord Ossulston and Flt. Lt. D'Arcy Greig.

[This is remarkable in an aerodrome so far removed from even the fringes of the flying areas of the country that the Royal Air Force has been unable to send a machine or two into such an immense potential recruiting area when the Club has drawn tens of thousands of people to its Meetings.—C. G. G.]

The Yorkshire Aeroplane Club.

[Sec.: D. M N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Sept. 10.

Flying time 30 hr. 45 min. *Instruction* 17 hr. 20 min. *Soloists* 9 hr. 30 min. *Passengers* 3 hr. 55 min. *Instruction with Mr. Beck.*—General Atcherley, Capt. Milburn, Miss Woodhead, Messrs. Hirst, Ten Bos, Bailey, Brown, Tattersall, Gratwick, Crouther, Dujardin, Mason, Priestley, Micklethwait and Leatham. *"A" Pilots.*—Miss Woodhead, Capt. Milburn, Messrs. Wood, Little, Norway, Thomson, Wilson, D. Atcherley, R. Atcherley, Watson, Rhodes, Brackenbury. *Passengers.—With Capt. Milburn*—Messrs. Herbert, Ingham, Blackburn. *With Mr. Thomson*—Mrs. Herbert.

The Bluebird which arrived last week has turned out to be very popular, as was expected, and quite a number of members have already gone solo on it Capt. Milburn now has his Moth back from London, and is helping us considerably to put up flying hours.

DON'T FORGET OUR PAGEANT ON OCT. 1 AND 2.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Sept. 10.

Flying time 13 hr. 21 min. *Instruction with Mr. W. J. McDonough.*—E. P. Lane, O. L. Richards, R. L. Brinton, C. Dawson, R. D. Bednell, H. Lattey, Capt. J. E. Brewin, R. Cazalet, H. Beamish. *Soloists.*—S. H. Smith, R. L. Jackson, R. L. Brinton, G. V. Perry, R. Cazalet, H. J. Willis. *Passengers.—With Mr. McDonough*—E. D. Wynn, J. H. Moore, W. Baldwin, H. C. Mander, G. Mander, W. H. Bush. *With Mr. Brighton*—R. Darlington, L. F. Gundle. *With Mr. Willis*—O. L. Richards.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

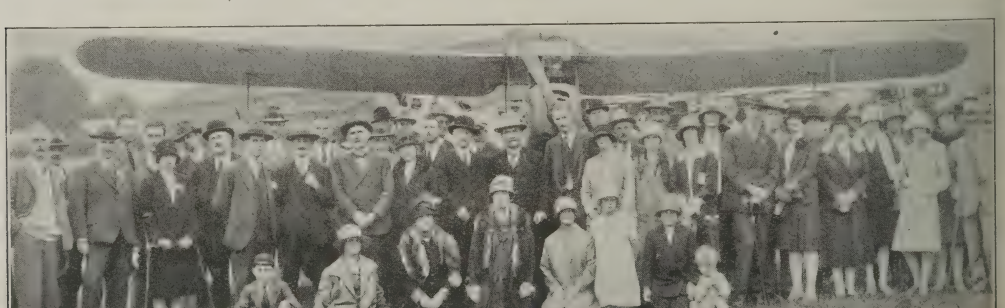
Report for week ending Sept. 11.

Flying time 20 hr. 25 min. *Instruction* 13 hr. 20 min. *Soloists* 6 hr. 25 min. *Passengers* 20 min. *Tests* 20 min.

Instruction with Flt. Lt. Thomson.—Mr. Duggan (a visitor from Canada, who is in England for a few weeks and intends to learn to fly in that time) 3 hr., Cripps 1 hr. 45 min., Dr. Morrison 1 hr. 30 min., Lt.-Cdr. Woodhouse 50 min., Lieut. Hall-Thomson, R.N., 45 min., Lieut. Dalmeyer, R.N., 55 min., Lieut. Lambe, R.N., 55 min, Messrs. Vaughan 20 min., Crook 50 min., Bailey 15 min., Dickson 15 min., Courtney 20 min., Baynes 15 min., Hancock 35 min., Boileau 30 min., Stanford 5 min., and Cmdr. Hunt 15 min. *Soloists.*—E. I. C. Wyllie 45 min., Shepherd 15 min., Sanders Clarke 50 min., Pargeter 10 min., Cooper 20 min., Fagan 30 min., A. N. Other 20 min., Nicholson 10 min., Wells 20 min., Parker 35 min., Bowen 25 min., Don Juan de la Cierva 10 min., Flg. Off. Overbury 40 min., Flg. Off. Southey 10 min., and Lieut. Graham, R.N., 45 min. *Passengers.*—Miss G. Breton and Miss P. Breton *with E. I. C. Wyllie;* Mr. Nichoutts *with Flg. Off. Overbury;* Mrs. Crook and Mr Lovat *with K. P. L. Bowen;* and Mrs. Crook *with our instructor.*

Engine overhauls have put one of our machines out of action all this week, and no flying was possible on Tuesday and Thursday on account of rain

On Sunday, Mr. Kittle flew down from Stag Lane in his new "X" Moth, with a friend in the front cockpit. We were all very envious



A CIVIC EVENING.—The Lord Mayor (in Chain) and City Councillors of Norwich, as the guests of the Norfolk and Norwich Aero Club at Mousehold Aerodrome on Sept. 1.

The "Bristol" Aeroplanes.



THE BRISTOL AEROPLANE Co LTD.
FILTON BRISTOL.

W.L.MILES. 1927

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Holland to Java and Back on Wakefield Castrol

WAKEFIELD CASTROL

is the product of an all-British Firm, recommended by 239 leading Motor Manufacturers.

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On July 23rd, a Bristol "Jupiter" engined Fokker monoplane completed what is perhaps the finest flight yet recorded in Commercial Aviation—20,000 miles without incident by a standard commercial machine hired by the passenger Mr. Van Black, an American newspaper proprietor.

Mr. Geysendorfer, who with Mr. Scholte piloted the plane, writes:—

"During my 30,000 kilometre flight from Amsterdam to Batavia and back, the engine was lubricated exclusively with CASTROL Motor Oil. I congratulate Messrs. Wakefield on this wonderful lubricant which functioned perfectly during the whole trip and undoubtedly is the finest oil for such an important job."

And so all the world over, when reliability is essential, the expert's choice is——

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WAKEFIELD Castrol Regd. MOTOR OIL

of his mount, especially his very fine compass. However, honours were even, for Mr. Kittle was covetous of our recording barograph and club-house, in general.

Incidentally, Sunday was a record day for this Club's flying time with one machine, a total of 7 hours being reached.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Sept. 5.

Flying Time 12 hr. *Instruction.—With Mr. Lines*—Mrs. H. Cator, Messrs. Birchall, Batterel, Neave. *Soloists.*—Messrs. Gough, Cubitt, Birchall, Moore, Pank, Ramsey. *Passengers.*—Mr. H. Cator, Senr., Miss B. Cator.

We have this week been flying G-EBMP, loaned us pending the return of our own Moth, and although she is not up to ours she is a most exellent machine to handle, and has afforded good experience to the flying members.

We have had a busy week; on Wednesday the meeting at the Royal Hotel was well attended and the results gave much satisfaction.

On Thursday we held the first Civic Air Meeting ever held in this country and perhaps in the world, the whole thing was a perfect success and all arrangements worked well. The Lord Mayor and nineteen City Councillors actually went up with Mr. Lines, and we had to cease flying practically in the dark, but with many Councillors still wishing to go up. Every Councillor expressed his pleasure and sense of complete safety and many promised to become members.

The catering was successfully done by Messrs. Langfords, who also are in attendance on Thursday and Saturday afternoons. We are anxious to get a larger number on these two afternoons and hope members, both associate and active, will please note.

On Sunday the Lord Mayor and Lady Mayoress came along and had tea. We were very pleased to see them and hope they will come more often. The Lord Mayor saw how acutely we required another machine. There were enough applications to fly to keep two machines going the whole afternoon.

In addition to the usual excitement, our instructor, Mr. Lines, bowled up after tea with a mechanical contraption in which he informed us he had just done 73 miles per hour. We rather doubt this, especially as we found there was no carburettor on the machine when it arrived. It seems very unfortunate that this particular contrivance refuses to function on aviation spirit, we therefore express our deep sympathy to Capt. Lincs. After seeing him in charge of the proposition our members have come to the conclusion that flying must be indeed a tame job.

The Bristol and Wessex Aeroplane Club.

[Sec.: C. S. Clarke, Channel Road, Walton Park, Clevedon, Som.]

Report for week ending Sept. 10.

Flying time 15 hr. 5 min. *Instruction* 13 hr. 25 min. *Solo* 20 min. *Passenger flights* 1 hr. 20 min. *Instruction.—With Mr. Bartlett*—Miss Miles, Miss H. Pitman, Messrs. Amery, Bathurst, Downes-Shaw, Clarke Hall, Peters, Pitman, Roberts, Tiarks, Welch. *Soloists under instruction.*—Mr. R. A. Hall. *Passengers.—With Mr. Bartlett*—Miss Clissold, Mr. Dean, Mr. Monk. *With Mr. Uwins*—Mrs. Uwins, Miss Boucher. *With Capt. Barnwell*—Messrs. R. A. Barnwell, J. S. Barnwell, and D. U. Barnwell.

Every week marks a step forward in the progress of the club. This week saw the arrival by air of our chairman, from Stag Lane Aerodrome, in his own Moth. Mr. Downes-Shaw went up to London on Friday accompanied by the instructor, to bring down his machine, and he thus becomes our first Private Owner.

Our pilot members now number over 50, this figure being reached early last week. It will certainly not be long before some of them follow Mr. Downes-Shaw and purchase their own machines.

Mr. R. A. Hall accompanied by Mr. Bartlett flew to Princetown to attend the conference of the British Institute of Coach and Automobile Manufacturers, who are meeting this year in Torquay, and who had gone to Dartmoor for lunch.

The official opening of the club will be held on Saturday afternoon, Oct. 8. A good programme has been arranged, and we hope that all those who are interested in Aviation will visit us on this occasion.

The Suffolk Aeroplane Club.

[Sec.: Courtney Prentice, "Hazeldell," Stowmarket.]

Report for week ending Sept. 11.

Flying time 10 hr. 40 min. *Instruction.—With Mr. D. Carnegie*—G. Hutley, S. Schofield, C. N. Prentice, N. Creasy. *With Mr. N. Comper*—Miss D. Creasy, Dr. Sleigh, H. Billinton, S. Schofield, G. Hutley, N. Creasy, C. N. Prentice. *Soloist.*—Courtney N. Prentice. *Passengers.*—Mrs. Hutley, Miss Creasy, G. Hutley, F. Jolly, S. Hutley, F. Clifton.

Five new members were enrolled this week, and the Bluebird has been kept very busy. Squalls and rain held up flying for two days.

[As the Club is unsubsidised, and as the membership is not yet great enough to permit expenditure on luxuries, it cannot afford a professional instructor. One is glad to see therefore that certain Service people are very sportingly giving up their hard-earned leisure to increasing the air-mindedness of the somewhat slow-thinking Eastern Counties.—C. G. G.]

A Flying Club for Simla.

According to *The Times* a flying club was formed in Simla on Sept. 9 with fifty members of the Central Legislature. Sir Bhupendra Nath Mitra, member of the Legislative Council, stated that the Government of India was formulating a scheme to grant a scholarship for the training of Indian youths in flying.

A strong Executive Council has been formed of members of the Legislature and Major Impey has been appointed Secretary.

GNATURAL HISTORY AGAIN.

The doings of the Gnat Acro Co. of Portslade and Shoreham are further recorded in the following notes from Mr. F. G. Miles:—

A surprise visit to the scene of Pashley's labours the other day, brought to my astonished vision a most peculiar sight. It was Pashley sitting on the grass with his trouser-legs rolled up, and our advance agent, Boucher, spraying the legs thus exposed with a dope syringe. This was being done most solemnly and seriously. Then, when Boucher had finished his task, Pashley returned the compliment.

Earnest inquiry elicited the solution to the mystery. Apparently the harvest spiders which inhabit that part of the globe are of a particularly virulent nature, and spraying with petrol is, they tell me, a very good, if somewhat odorous, preventative.

[For the benefit of others similarly afflicted one may say that paraffin is less volatile, more adhesive, and equally effective.—Ed.]

Personally I have been spending my time and money at Seaford. At least owing to apathy and lack of air-sense on the part of the inhabitants, I have not been doing much flying. In fact I passed a good deal of time lying on the grass with my face in my hands, preserving that schoolgirl complexion and waiting for customers.

Which gave a small girl occasion to remark to her nurse: "Look, Nanny, the pilot is crying." He was nearly. From ennui.

Incidentally, while I write of joy-riding, I must tell you of some of the objections and objectors that one encounters.

At Wannock an irate and choleric gentleman, with some sort of a military prefix to his name, informed Pashley that he (Pashley) was flying directly, or very nearly so, over his (the military gentleman's) thatched cottage. And moreover—he continued—Pashley was endangering the said thatched cottage to an unwarranted degree, since, said he, if one of the passengers (who, he remarked in passing, were fools to go up anyway) should throw out a lighted cigarette or a match, it would be all U.P. with his beautiful but inflammable thatched cottage.

After Pashley had reassured him on this point, he came back with another grievance. In effect he said (and repeated later by letter), "I have been given to understand that certain persons have been asked to stand by while the aeroplane takes off, and this while they have been using a public footpath that runs across the flying ground. Unless I am given an assurance that this will not happen again I shall take the necessary steps to see that any person shall have the full, free and unfettered rights to the aforesaid footpath."

Of course I spoke to Pashley severely about fettering people on a public footpath, but I made little impression, I fear.

Ah, well! The joy-rider's life is a compound of trouble. And there is no joy in him

THE FLIGHT TOWARDS THE CAPE.

On Sept. 10 Lieut. Bentley, of the South African Air Force, who is attempting to fly from Stag Lane to Cape Town on a D.H. Moth (A.D.C. Cirrus II engine), arrived at Heliopolis, Cairo, having flown from Lyon (where he was last reported) by way of Malta.

A GALLANT AUSTRALIAN PROJECT.

Arrangements have been completed for a flight to Australia by two Avro Avians some time towards the end of this month.

The machines will be flown by Flg. Off. W. N. Lancaster, R.A.F.O., and Flg. Off. C. E. Galpin, R.A.F. Mr. Lancaster will be accompanied by Mrs. Keith Miller, whose husband is now in Australia.

The Melbourne Herald and *The Sydney Sun* are helping to finance the flight and other assistance is being given by Australians in London.

The route to be followed will be almost identical with that taken by Messrs. Stack and Leete as far as India. Thence they will proceed by way of Burma, Siam, Straits Settlements, Sumatra, Java and Port Darwin.

A SUSSEX SLIDE.

The brothers Maurice and Nigel Jackaman, of Slough, crashed their Moth, fortunately without serious injury to themselves, at Littlehampton on Sept. 13. They had flown down from Slough to bathe before breakfast, and in starting for home stalled in getting off, and dived into the ground.



ORGANISERS OF VICTORY.—Fairey-Reed Airscrews being packed to go to Venice for the Schneider Contest.

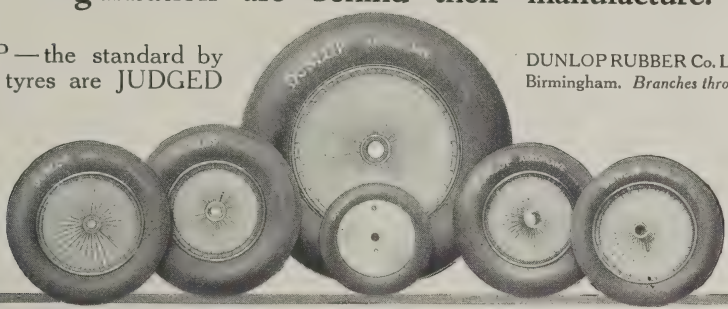
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are specially designed by experts for the work they have to do. Just as they are right in *principle*, so are they right in *construction:* all the vast resources of the Dunlop Organisation are behind their manufacture.

DUNLOP—the standard by which all tyres are JUDGED

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THE FIRST **"SOUTHAMPTON"** TO BE FITTED WITH **ALL-METAL HULL** AND **FLOATS.**

THE METAL HULL IS LIGHTER THAN A SIMILAR HULL CONSTRUCTED OF WOOD BY 500 lbs.

THE ABSENCE OF WATER SOAKAGE ENSURES A FURTHER SAVING IN WEIGHT TO THE EXTENT OF 400 lbs.

THIS 900 lbs. MAY BE USED TO EXTEND THE RANGE IN THE CASE OF A SERVICE MACHINE BY 200 MILES OR TO INCREASE THE LOAD CARRIED IN A COMMERCIAL MACHINE BY SIX PASSENGERS.

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SOUTHAMPTON, Eng.

COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 22; Tuesday, 22; Wednesday, 26; Thursday, 23; Friday, 25; Saturday, 18; Sunday, 18.

IMPERIAL AIRWAYS LTD. :
London—Paris—Zurich; London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin : Machines 54, passengers 521, freight 15 tons.

AIR UNION :
Paris—London : Machines 38, passengers 163; freight 12½ tons.

K.L.M. :
Amsterdam—Rotterdam—London : Machines 21, passengers 116, freight 2½ tons.

SABENA :
Brussels—London : Machines 12, passengers 74.

DEUTSCHE LUFTHANSA AG. :
Berlin—London : Machines 16, passengers 65.

COMPAGNIE AERIENNE FRANCAISE :
Machines 2, passengers 2.

PRIVATE :
Machines 1, passengers 0.

Total number of trips by British Machines, 54, carrying 521 passengers. Foreign Machines, 90, carrying 420 passengers.

COMPARATIVE FIGURES.

Week ending Sept. 11 :
Machines, 144; Passengers, 941; Crews, 266; Total personnel, 1,207.
Corresponding week, 1926 :
Machines, 167; Passengers, 657; Crews, 193; Total personnel, 850.
Corresponding week, 1925 :
Machines, 136; Passengers, 607; Crews, 184; Total personnel, 791.
Corresponding week, 1924 :
Machines, 137; Passengers, 572; Crews, 165; Total personnel, 737.
Corresponding week, 1923 :
Machines, 138; Passengers, 549; Crews, 223; Total personnel, 772.
Corresponding week, 1922 :
Machines, 121; Passengers, 411; Crews, 215; Total personnel, 626.
Corresponding week, 1921 :
Machines, 96; Passengers, 224; Crews, 120; Total personnel, 344.
Corresponding week, 1920 :
Machines, 115; Passengers, 285; Crews, 142; Total personnel, 427.

Croydon Notes.

On Friday of this week there arrived at Croydon a Farman Goliath (F-ADCR) belonging to the *Compagnie Aérienne Française*. It is understood that this company will in future run a regular service between London and Paris at fares roughly 30 per cent. below those now in force.

At present the service will run once weekly, leaving Paris on Friday and returning to Paris on Saturday. Presumably the frequency will be increased if the venture proves successful.

The hoped-for arrival of the Stinson monoplane "Sir John Carling," which attempted to fly from London, Ont., to London, Eng., attracted a considerable number of visitors to the neighbourhood of Croydon on Thursday. Well after 10 p.m., when one passed along Purley Way, large numbers of cars were parked at the side of the road, but unfortunately the lookers-on saw only the night-lighting of Croydon Aerodrome.

This is, in fact, a sight well worth seeing. The Neon beacon at work is really a wonderful sight, and on this particular night, when there was a fair amount of mist, and much low cloud, the periodic red glow from it was clearly seen from just outside Haywards Heath, Sussex, about 25 miles from Croydon, at a time when the ground visibility in the headlights of a car was not more than about three yards.

Apropos the remarks which appeared in these Notes a few weeks ago as to the defects of the present type of wireless installation used on civil aircraft, one is informed that Imperial Airways have now arranged to have their machines fitted with fixed aerials, and that the Marconi Company are producing a special short-wave sending and receiving set for use with these aerials.

Machines will still carry the standard wireless gear and the trailing aerials in order to allow them to use the official wireless service, but they will be able to communicate on the short-wave with a special station which I. A. and the Marconi Company are to provide.

This new equipment will, it is hoped, largely overcome the troubles which are now found to result from the use of the trailing aerial in the immediate vicinity of the terminal aerodrome.—W. H. S.

CHANGE OF OCCUPATION.

Mr. T. Neville Stack, who achieved World-wide fame by his extraordinarily fine flight to India in a Moth, accompanied by Mr. Bernard Leete on another Moth, has recently taken on the job of test pilot for A.D.C. Aircraft, Ltd., *vice* Mr. Perry, who has joined the pilot-staff of Imperial Airways, Ltd.

Mr. Stack's recent exploits in running *The Daily Mail* service to Ostende were duly recorded in THE AEROPLANE.

In this connection, one regrets to hear that the Meteorological Department feels itself aggrieved over a remark in the Croydon Notes last week to the effect that Mr. Stack used to start on these Ostende journeys too early for the Meteorological service, and therefore had to do without any weather report, the commentator adding, "Which is possibly just as well."

As a matter of fact, after Mr. Stack's first day the Meteorological service always had a report of the state of the weather at Ostende ready for him at Lympne by 04.30 hrs., but apparently Mr. Stack did not think it worth his while to ask for the reports. Which is possibly just as well, not because the Meteorological Department, which is almost invariably extremely accurate in its work, was likely to mislead him, but because the weather was generally reported as being so bad that Mr. Stack's mind was probably relieved by not getting the reports.

A GLOSTER MOVE.

Mr. Rex Stocken, who will be remembered as putting up some very fine speed performances soon after the War, has recently joined the Gloster Aircraft Co., Ltd., in the capacity of liaison officer between the firm and the various R.A.F. units which are equipped with Gloster machines.

For the past three years Mr. Stocken has been serving in the R.A.F. with a Short Service Commission, and has had experience of the very latest types of Service machines. Also he was one of the original members of the High Speed Flight at Felixstowe and did some very good experimental flying on the first machines which came through for the Speed Flight.

Everybody expected that Mr. Stocken would be given a Permanent Commission in the R.A.F., but apparently his age was against him, as our parsimonious Treasury has an unpleasant habit, as the final Court of Appeal, of turning down people whose age and war service would qualify them for pensions before the Treasury considers that it has had its full value out of them, in spite of the obviously high value of their experience of active service to the younger officers of the R.A.F. However, one is glad that Mr. Stocken's great skill as a high-speed pilot and his experience of war flying and civil flying will henceforth be available to one of the most enterprising firms in the Aircraft Industry.—C. G. G.

AVIATION IN LIVERPOOL.

Sir Sefton Brancker, Director of Civil Aviation, has recently been paying a visit to Liverpool to discuss with the important people of that city the possible development of aviation in the district. On Sept. 7 he was entertained at dinner by the organisers of the Liverpool Civic Week, which begins with Liverpool's Air Pageant on Sept. 24. At that entertainment he met various members of the City Council and discussed possibilities with them. On Sept. 8 he was entertained at lunch by the Lord Mayor.

There seems to be an idea in Liverpool of establishing an aeroplane service in connection with Liverpool shipping, so that on arriving there they can fly direct to London or to the Continent. No doubt such a service will come into being in due course when we have aeroplanes properly designed for cross-country flying, and when we have proper ground organisation to deal with night and fog flying.

A NEW SURVEY.

He came into the Aero Club and said "Good Morning" to me, addressing me by my Christian name. I looked at him and was sure I had seen the face before but could not recall the time or the place. Dick of the Aero Club seemed to remember him vaguely, and thought he must be a very old or a very new member.

Upstairs he greeted a little group of people as though they were all old friends of his. They stared at him blankly, unrecognising. Then from his mouth came a familiar accent, saying, "Here you lads, have you heard this one?"

And it was only the telling of a Lancashire story in the old familiar style that made us recognise Mr. John Lord without his moustache.

G. D.

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Edited by C. Grey

Vol. XXXIII. No. 12. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

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"FOOTPRINTS ON THE SANDS OF TIME."

(Longfellow.)



AN AFTERNOON CALL (Modern Style):—Two Avro Avians (Cirrus engines) piloted by Don Juan de la Cierva and Mr. Dudley Watt, on the sands at Sea View, Isle of Wight, whither the aviators had gone to call on Mr. Wallace Barr, of Cellon.

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Major F. A. de V. Robertson, the well-known Aviation Correspondent, writing of this flight, says:—

"AT a time when British long non-stop flights have not been favoured with the best of fortune it is not fitting that this record set up by Bert Hinkler should be hidden under a bushel.

Nothing to compare with this non-stop flight of 1,200 miles in a tiny aeroplane has ever been accomplished before. The only flights which can at all be classed with it are two previous exploits of Hinkler himself. In 1920 he purchased an Avro "Baby" single-seater with a ten-year-old "Green" engine of 35 h.p. In this he set off from Croydon on May 31st of that year and flew non-stop to Turin, 650 miles, in 9 hrs. 35 mins. On April 11th, 1921, Hinkler flew from Sidney to Bundaberg, a small station in Queensland. This was a non-stop flight of 800 miles in 9 hrs. and it held the record for many years."

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THE AEROPLANE

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VOL. XXXIII. No. 12.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8s. U.S.A., 1 Year, $8.50c.

ON CONDITIONS IN THE R.A.F.

Napoleon, or somebody else who was reputed to speak with authority, remarked that if one wishes to be successful one should avoid having anything to do with people who are unlucky. Which is very true. But he might have added that one would do equally well to avoid people who have a grievance.

Of course, the man who is consistently unlucky naturally has a grievance, but there are also people who have grievances without being particularly unlucky. And very few so-called unlucky people realise that quite a lot of their ill-luck is caused by their continually having a grievance.

The common or British grouser is bad enough. But if he grouses in a humorous kind of way and grouses with a good object in view he very often helps to get things done,—especially if he grouses for the good of other people and not about his own affairs. On the other hand the man who constantly believes that he has a grievance against Fate or against the Authorities, or against his own immediate seniors, never gets anywhere. He is simply bound to get himself disliked. He bores his equals and offends his superiors. And there is an end to all advancement or promotion.

All this philosophising applies just as much to ordinary commercial life as it does to the Services. In fact it applies rather more to commercial life because there is so much more personal favouritism and family influence in business than there is in the Services. In the Services a grouser may be promoted on sheer seniority, so long as there is nothing against his character or his efficiency, although he may imagine that he has a legitimate grievance. Whereas in any ordinary business house he would get himself so much disliked that he would be fired anyhow.

Grievances in the R.A.F.

The real reason for this dissertation is that of late one has come across by sheer ill-chance quite a number of people in the R.A.F. who have grievances of one kind or another. They are of various sorts. There is the young officer who has a grievance against his immediate C.O. because he is not allowed to fly some particularly amusing new machine which has lately reached his squadron. There is the really good Short Service officer who has only just failed to get a Permanent Commission through sheer bad luck. There is the comparatively senior officer who has had to leave the Air Force which he has worked so hard to create because through some stroke of ill luck he has not got his next step in promotion before reaching the age limit. And sundry others, all of whom feel that they have been badly used by Fate and/or the Air Council.

Of course, you may say that after a man has left the Service his grievances do not matter. But in truth they matter quite a good deal, because a man going around at large with a grievance is bound to stop a certain number of youngsters of the most desirable sort from joining the Service. Also his grievances, if they sound at all justified, are bad for the general prestige of the R.A.F. among the Great British Public which pays the taxes.

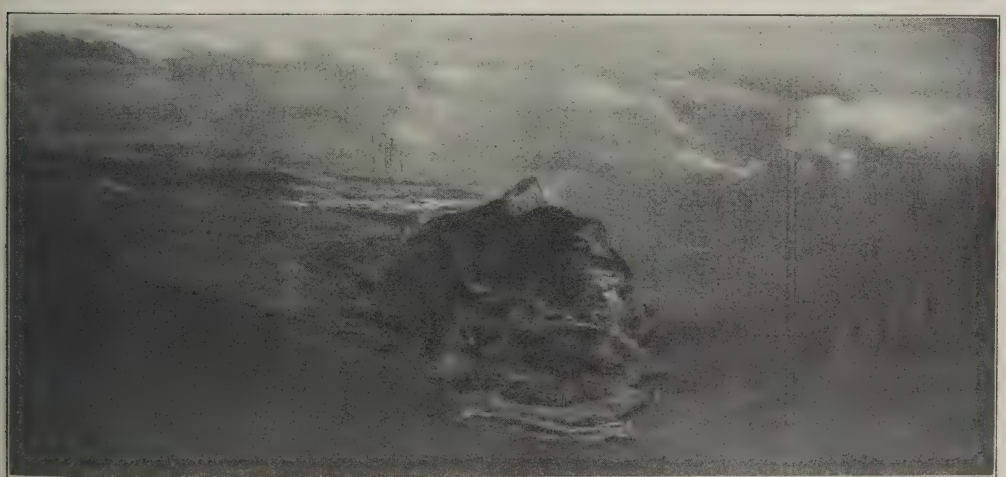
The man with a grievance who is still in the Service is a worse evil, for not only does he become slack in his work, which is bad for the efficiency of his unit, but he is likely to infect other people with a spirit of discontent, which is even worse.

Undoubtedly the two most common causes of grievances are, firstly, the continual posting of people from one unit to another, and from units at home to units abroad, which causes a great deal of discontent and in some cases does give ground for genuine grievances; and secondly the allocation of Permanent Commissions, which really ought not to cause any grievances at all, seeing that every officer who accepts a Short Service Commission does so on the clear understanding that his commission will terminate at a certain specified date five years later.

These matters are, naturally, the private concern of the Air Force and are hardly fit subjects for public discussion. Nevertheless the welfare and efficiency of the Air Force are of so much importance to the Empire that anything affecting the Air Force is or ought to be of interest to the people of the Empire, and secondly, as all ranks of the Air Force do THE AEROPLANE the honour of reading it, apparently with extreme care, every week, one feels that a few words on these subjects to officers who think they have grievances may possibly help them to see things in a different light.

The Spirit of the Unit.

First of all let us deal with the subject of posting. Undoubtedly everybody in the Air Force would be very much better pleased if it were possible to post an officer or man at the end of his first training to a certain squadron and make that his home and his father and mother and all his family for the rest of his Service life.



IMPERIAL DEFENCE.—Gibraltar and its Rock, as seen from an aeroplane.

In the Army, a man joins a regiment and belongs to that regiment always, though possibly he may for some urgent reason transfer to another regiment. He may be seconded from that regiment for special duties, he may go to the Staff College or he may attend courses of one kind or another. He may even be lent to the Army of another nation. But he always remains an officer of his old regiment, and he is always proud of it.

That is why the spirit and moral of the British Army is higher than in any other Service in the World.—And explains why the Chief of the Air Staff is still Colonel of the Royal Scots Fusiliers.

The Navy lacks that spirit because officers and men are appointed to ships for a tour of service of three years or so and never acquire the same attachment to their ships or to the senior officers of those ships that people do in the regiment in the Army. And unfortunately the Air Force throws people about from unit to unit even more recklessly than the Navy throws people about from ship to ship.

The suggestion has been made that a Squadron might be commissioned for three years, as the Navy commissions its ships, and that during that time nobody should be re-posted. Personally one does not think much of the idea, as compared with permanent appointment to a squadron. But it might be better than the existing system,—or lack of system.

The Trooping Trouble.

One gathers that the great difficulty in the Air Force is the question of trooping. At certain seasons of the year a certain number of officers and men have to be drafted to Egypt or 'Iraq or India because at that time an equal number of people have finished their tour of service overseas and have to be replaced.

That, of course, is inevitable. But one still cannot see why, by breaking ruthlessly some of the half-formed traditions or rules of the Air Force, whole units cannot be brought home from India or 'Iraq or Egypt and replaced by comparatively new units.

As it is a wretched officer has just settled down with his family at some comfortable home station when he is shot off abroad without warning. And the surest way of being sent overseas is for a young officer to take unto himself a wife. In fact the junior officers believe that a special department exists at the Air House for the sole purpose of destroying the bliss of the newly-wed. And some officers have been known to conceal their marriages for this very reason.

One argument against replacing units as a whole is that it is better to replace a few officers and men in a unit at a time, so that the people who have been abroad for a year or two may put the newcomers up to the dodges of living comfortably and healthily in a strange country and climate. But surely that difficulty overcomes itself naturally by the fact that when a new unit goes out it will find other Air Force units on the spot who will act as guides and friends to the newcomers.

Another objection to replacing whole units is the cost of transporting a squadron complete with equipment from England to, say, India, and bringing another squadron back. One merely replies that there is no need to transport the equipment, unless of course the outward-bound squadron is taking with it a complete equipment of machines of an entirely new type,—as is at present very desirable.

If it is not doing so, then the simple thing is for the homeward-bound squadron to leave its equipment in India, or wherever it may be, and to let the outward-bound squadron take it over, while the homeward-bound squadron takes over the equipment which the other squadron has left at home.

One cannot help thinking that if units were moved as a whole in this way everybody concerned would be much more satisfied. People in a certain squadron would know that at a certain trooping season that squadron would be due to go overseas. The squadron would go abroad as one big family, instead of individuals going out more or less as strangers. And the squadron would retain all its old efficiency under its own officers.

As it is, with officers and men continually being shifted from one squadron to the other and from home overseas and from overseas home, no squadron ever reaches the highest point of efficiency which it would reach if left alone for a few years.

Efficiency can only be got by letting the officers get to know their men intimately, as a platoon-commander in the Army knows and nurses his men. But in the R.A.F. as soon as officers and men get to know one another either the officers or the men are "moved on."

A Staff Exercise.

Even at home, without taking the trooping season into consideration, there seems to be a great deal of unnecessary shifting about. But one quite recognises the immense difficulties of both the Personnel Department and the Air Staff.

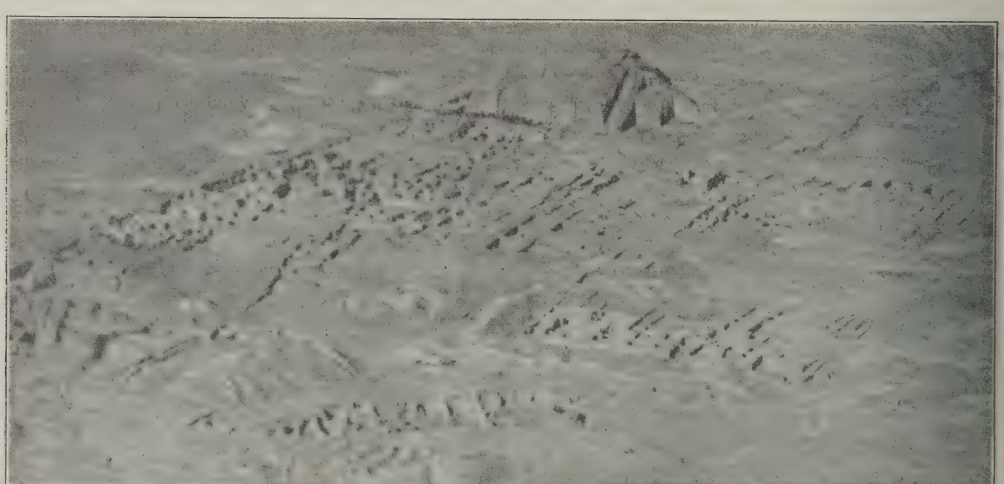
The Personnel Department have to fill up vacancies caused in one way or another in the squadrons at home, and they alone know all the difficulties of finding men to fill those vacancies, which may be caused either by people going abroad or by people leaving squadrons to go on special courses, or by promotions, or by accidents, or by war, sickness, famine, or any other adversity.

Also the Staff are the only people who can decide whether the better policy is to stick a man in one squadron of one type and keep him there or to change people about from one class of machine to another to promote versatility and self-reliance among pilots and to give the aircraftmen experience of different types of engines and machies.

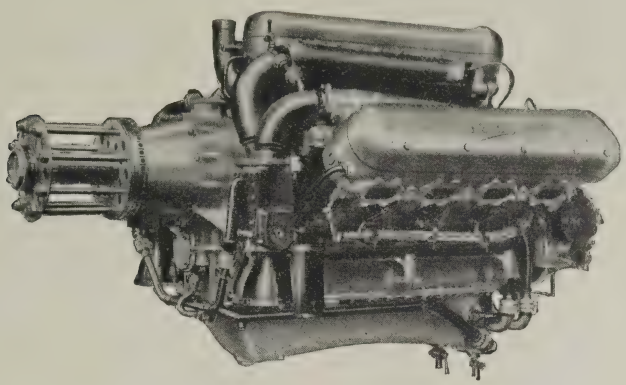
The man who might be quite a bad pilot in a single-seater squadron might turn out to be very much a star turn in a squadron of big bombers. And a man who is just an ordinary good pilot of bombers might turn out to be a star if given a chance as a single-seater pilot.

Also, people must go to the different specialist schools for courses in navigation and bombing, and so forth and so on. So there seems no possibility of keeping people permanently in one Squadron to avoid swopping about.

Nevertheless, one cannot help thinking that the Posting Department might go about its work with a little more orderliness and might make appointments for a definite time, and might give people warning of what they will be expected to do at the end of that time.



ANCIENT AND MODERN.—The excavations at Ur of the Chaldees—the oldest city known to man—photographed from one of the Imperial Airways' machines. Ur of the Chaldees was a prosperous civilised city 6,000 years ago.



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THE PERMANENT COMMISSION GRIEVANCE.

The question of the allocation of Permanent Commissions is much more important in a good many ways, because the man who has been encouraged to hope that he will be awarded a Permanent Commission and does not get it is very apt to go Bolshie and to become a man with a Permanent Grievance instead. (Something on the lines of the drunken Wexford militiaman entraining for garrison duty at Gibraltar at the time of the Boer War. One of the subalterns exhorted him saying " Get into the train with you now, and come off to the war. We'll make a field-marshal of you yet!" " Field-marshal is it, Begob, sorr?" replied the man, " Ye'll be more like to make me a bludey casuality!")

Admittedly the Short Service system is a curse. But there is no possible alternative to it. We must have young pilots and we must have as many pilots as possible.

Even if the nation could afford an Air Force of unlimited size we still could not afford to give Permanent Commissions to everybody in it. If we did so we should arrive in twenty years' time at the stage of having hardly any Wing Commanders under sixty years of age, nearly all our Squadron Leaders would be about fifty, and there would hardly be a Flying Officer under forty. In fact we should be in just about the same condition as was the British Army in the days before the Peninsula War, when it was full of subalterns of fifty.

Many years ago *Punch* published a beautiful picture of an aged railway porter complaining to one of the regular users of his wayside station :—" I'm only seventy years old, and I've only 'ad this job for fifty years, and now the company is giving me the sack. If I'd 'a'thought the job wern't going to be permanent I'd never 'a' took it."

That is precisely the kind of trouble the Air Force would be up against if everybody had Permanent Commissions

THE RETIRING AGE.

Reference to " The King's Regulations and Air Council Instructions for the Royal Air Force " discloses in paragraph 3477 the interesting fact that the compulsory retiring ages for officers are as follows :—

Air Chief Marshal, 65; Air Marshal, 65; Air Vice-Marshal, 60; Air Commodore, 57; Group Captain, 55; Wing Commander, 48; Squadron Leader, 45; Flight Lieutenant, 40; Flying Officer, 40; Pilot Officer, 40.

As a matter of history the retiring ages for Air Chief Marshals and Air Marshals and even Air Vice-Marshals are if anything too low. Every great war throughout the ages has shown us that the really great Generals are men well over 60 years of age. And yet, presumably, for the good of the Service, the best of Air Marshals and Air Vice-Marshals must retire at these ages so as to leave room for Air Commodores and Group Captains to be promoted so that they may learn the higher arts of the higher commands.

The higher an officer rises in rank the more difficult must be the problem of replacing him. Yet he must be replaced because in a Service nobody must be indispensable. Still we can console ourselves with the thought that a Marshal of the Royal Air Force, like an Admiral of the Fleet or a Field-Marshal, is always on the Active List, and can only be retired by Death.

A PARABLE.

The other day certain people concerned with aircraft were discussing the " D.H.9a Replacement Competition," which has caused so much concern in the Air Force and in the Aircraft Industry during the last six months,—but especially during the last two months. Even now the results are not known, but that Competition has produced better results than anybody expected in that we have now the De Havilland Hound and the Fairey IIIF, which put up performances far superior to those of our best single-seat fighters. And yet the good old 9a keeps on doing the regular work of the Air Force.

In the course of the discussion some humorist suggested that what was really wanted was a " Senior Officer Replacement Competition " to give a chance to the junior people One member of the party remarked that such a competition would be very interesting, especially the test of the climbing capacity of the various candidates.

He pointed out that some men climb very rapidly in their youth and reach their ceiling at about the age of thirty while others are travelling fast and climbing at forty-five and fifty, and others seem to have no ceiling at all but continue climbing strongly between sixty and seventy.

In these days, when the height which an aircraft can reach gives it much the same advantage over its adversaries that the " weather gauge " used to give a warship in the days when sail had not been replaced by steam, this little parable may be appreciated by those officers of the Royal Air Force who feel that they are still climbing well within their power.

AGE LIMITS.

Obviously a Flight Lieutenant of forty, let alone a Flying Officer or a Pilot Officer, is an absurdity. A man who has reached his ceiling as a Flt. Lt. at forty cannot be classed as having a high performance.

It is perfectly true that a man may fly very well at forty. In fact there are some senior officers in the Air Force who must by now be very nearly fifty who are much prettier pilots and much safer pilots than any of the youngsters. But they are very much the exceptions. And there is no getting away from the fact that the reckless dashing air-fighter of war-time, who is a necessity for his own particular job, must be quite a youngster.

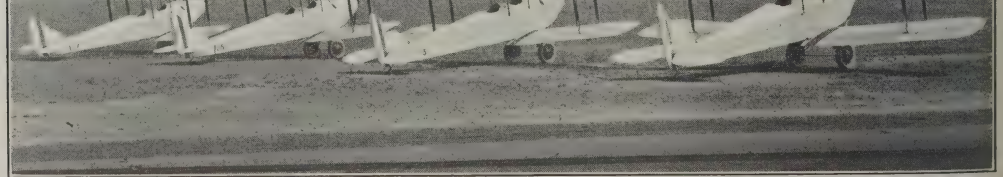
Quite conceivably a few squadrons might be formed of calm, cool and collected man-killers between thirty and forty years of age who would go about their jobs on purely scientific principles, something like those laid down by the late Major McCudden, V.C., in the later chapters of his extraordinary biography. But such men would be very hard to find, whereas the supply of youngsters who could do the same job very nearly as well is almost unlimited.

The regulation which allows officers of the rank of Flight Lieutenant and below to exist up to the age of forty is obviously framed with the idea of retaining in the Service as long as possible officers who are valuable in some particular way, and yet for some good and sufficient reason cannot be promoted any further.

For example, there have been in the R.A.F. quite a number of former N.C.O.s of the Guards and other excellent regiments of the Army who have been of the very highest value in drilling and training the airmen of the R.A.F. Those officers came into the R.A.F. at an age when they were too old to become good pilots, and in some cases when they were even too old to learn to fly at all. So naturally they could not be promoted beyond the rank of Flight Lieutenant, or at most Squadron Leader

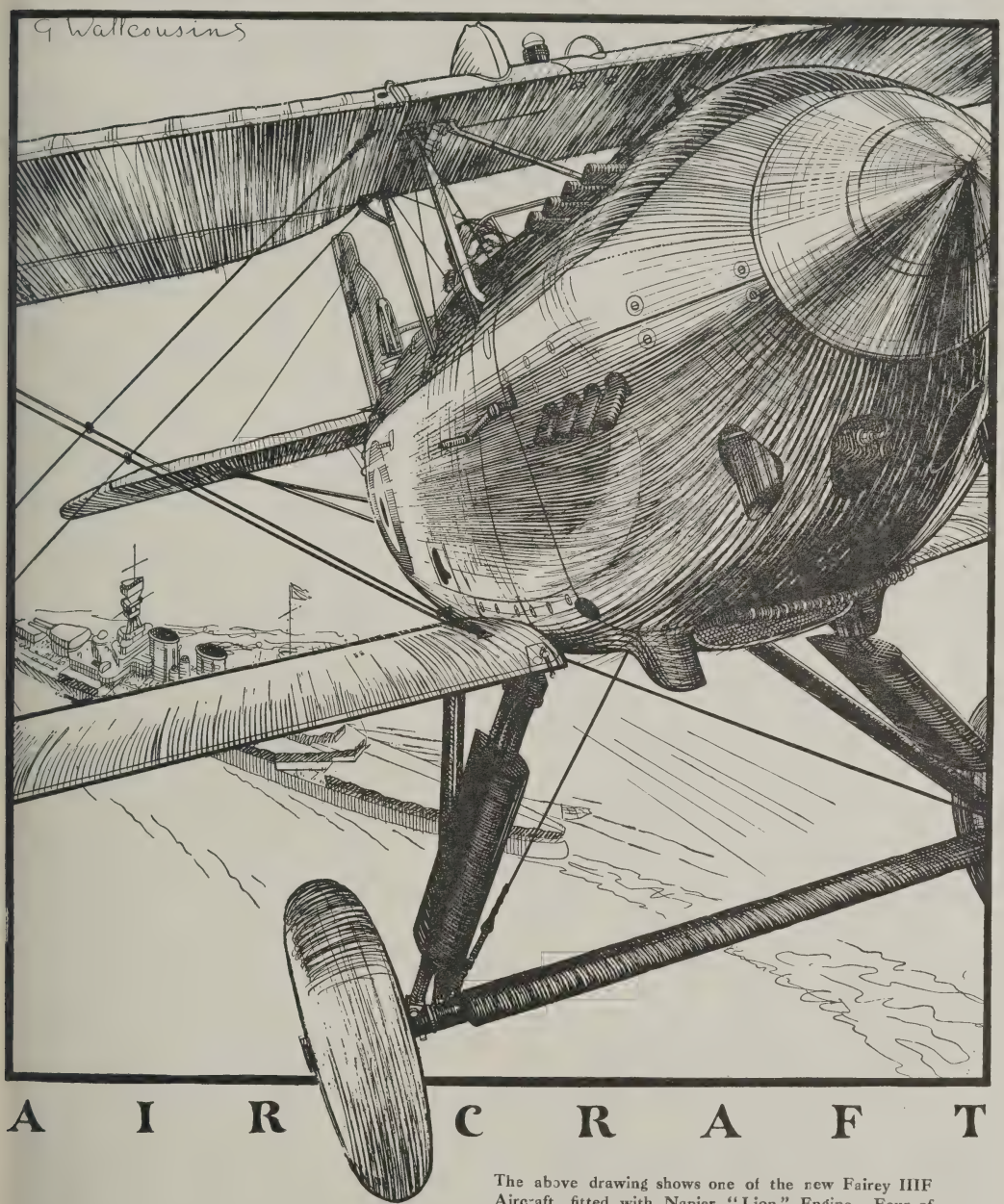
And no doubt from time to time N.C.O.s and Warrant Officers of the R.A.F. itself will be promoted, as drill specialists or technical specialists, who are worth keeping in the Service as long as possible. And the very fact that they are specialists in those particular lines may make them unsuitable for promotion to Wing Commander or Group Captain, quite apart from any question of social position. There are plenty of men who are excellent instructors or schoolmasters and yet could not command a Corporal's Guard.

But it is quite obvious that if every officer in the R.A.F. held a Permanent Commission very few would retire before the age of forty. Consequently there would be practically



LAW AND ORDER.—Four de Havilland Moths (Cirrus engines) built for the Irish Free State Army Air Corps. This Corps was formed in 1922 under the Ministry of Defence of the Irish Provisional Government and has its headquarters at Baldonnel Aerodrome, near Dublin. It is now commanded by Commandant J. C. Fitzmaurice.

F A I R E Y



A I R C R A F T

The above drawing shows one of the new Fairey IIIF Aircraft, fitted with Napier "Lion" Engine. Four of these machines were used for the recent Royal Air Force trans-African flight under Air-Commodore Samson, C.M.G., D.S.O., A.F.C.

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no opening for young men to join the Air Force at all as pilots. When the men of forty did retire they would be practically useless as a Reserve of pilots, and the result would be that we should simply have an aged Air Force and no Reserve at all.

The Need for a Reserve.

In view of the fact that we must have another war some day, even if it does not begin in 1928, as people at the Admiralty who base their statements on their highly efficient Intelligence Department confidently state, we must necessarily have a big reserve of pilots. Consequently the only way to get them is to bring in young men, keep them for five years and teach them to be pilots and officers, and then let them go while they are still young enough to be useful as a reserve for another ten or fifteen years. In that way we actually get three or four times as many trained war pilots in the country as we could get in any other way.

It is only another version of the trick which the Prussians played on Napoleon after the Battle of Jena. By the terms of the Peace Treaty Prussia was forbidden to maintain an army of more than 10,000 men. But by the quite simple process of bringing their men in as conscripts for a year and then replacing them by a fresh lot, Prussia managed to have 100,000 fairly well trained troops at the end of ten years. Which sounds a very small number in these days but was quite a big army then.

Some people argue that we could keep up the number of our pilots by giving Permanent Commissions to all the officers in the R.A.F. and having a Short Service system for N.C.O. pilots. That is all very well in its way. We should probably get all the pilots we wanted, especially in view of the fact that the R.A.F. airman of to-day belongs to a very much higher class of intelligence than did the private soldier before the War.

But besides having pilots we must have officers, who will have some notion of commanding in the next war the flights and squadrons which will be filled up by time-expired N.C.O. pilots and civilian pilots and intensively-trained new pilots. For this reason, although one believes in the N.C.O. pilot as a pilot, it is not good that there should be a very high proportion of airmen pilots in the R.A.F.

The Air Ministry's Problem.

Admitting then that the Short Service Commission is a necessity for the good of the Empire, we come to the common complaint that so many really valuable Short Service officers are allowed to go at the end of their engagement whereas so many obviously inferior officers are given Permanent Commissions. Here certainly there is often very obvious justifiable reason for grievances.

One constantly comes across very good men of the real officer class, often sons of old Army officers, belonging to families who have served the Crown for generations, good sportsmen, good at games, sufficiently intelligent to be sure of promotion up to Wing Commander at least, and yet they do not get Permanent Commissions.

On the other hand, one finds people getting Permanent Commissions who are not at all of the officer class but rather of that over-educated, under-bred middle class which normally might become some sort of lower grade Civil Servant or Government expert, without enough personality or initiative to make even a successful shop-keeper.

Almost any officer, or airman for that matter, in the R.A.F., could reel off half-a-dozen names of thoroughly good fellows who have gone out, and could mention at least two or three whose Permanent Commissions are commonly attributed to what can only be regarded as an error of judgment on the part of the higher Authorities. One cannot help feeling that here, at any rate, there is a really great opportunity for a reorganisation of the system under which Permanent Commissions are given.

Admittedly the Air Council has here a very difficult problem. Obviously the ideal would be the selection for Permanent Commissions of the very best officers among the Short Service Commission people. But think of the difficulties.

Possibly the best men might be got by forming a permanent Selection Board composed of quite the best people in the R.A.F. and investing that Board with full power to cut through all precedents and rules and regulations, so that it could select its man direct without the intervention of Areas, Groups, Wings or Squadrons. But an all-powerful Committee is even a bigger risk than is an all-powerful individual.

So far as one can gather, the present system is that each Squadron Leader recommends the people whom he likes best—and not necessarily the best people—to Wing Headquarters. The Wing Commander then rejects those whom he regards, of his personal knowledge or prejudice, as not entirely desirable and sends the rest of the names up to the Group. The Group then weeds out a few more, adds some of its own staff and sends the list up to the Area.

The Area then sends up to the Air Ministry probably three or four times as many names as the number of commissions which are likely to be allocated to that particular Area. Then the Selection Board, or whatever it calls itself, at the Air Ministry, goes through the qualifications of all those people and cuts them down to the number allocated to that particular Area.

Reasons in Writing.

The basic trouble seems to be the fact that commissions are allocated to Areas by numbers. And yet there seems to be no way out of it.

Suppose, for example, that the Air Council only had at a certain date twelve Permanent Commissions to give to Short Service officers. And suppose that by some amazingly efficient method the Air Council made certain that the twelve best Short Service officers in the Air Force all happened to be in the Fighting Area of the Defences of Britain. Think what a howl there would be from India and 'Iraq and the Fleet Air Arm and all the rest if the Fighting Area got all the commissions.

Or, worse still, supposing that by some queer accident all the best people were found to be in the Fleet Air Arm, think of the outcry there would be about the political influence of the Admiralty.

As it is, what happens is very likely something of this sort :—

A dozen really first-class men are put up by the Fighting Area to the Air Ministry. But there are only three commissions allocated to the Fighting Area. So nine good men have to be turned down.

Perhaps a dozen candidates are also put up by the Fleet Air Arm. And the best of the Fleet Air Arm candidates may perhaps not be on his merits quite as good as the fourth or fifth or sixth of the Fighting Area candidates.

The result is that you have three people getting Permanent Commissions from the Fleet Air Arm none of whom is actually as good as half-a-dozen of the rejected people from the Fighting Area.

Just in the same way, there might be a dozen or more people put up by 'Iraq and the best of the successful candidates from India might not be as good as several of the 'Iraq people who were rejected. So, obviously, everybody cannot be pleased.

The Fortunes of Peace.

Also, one has personally come up against cases where really first-class men, after passing through all the selective filters of Wing, Group and Area right up to the Air Ministry three and even four times (from different areas each time) have been turned down because they happened to have the ill-luck to be up against a singularly good lot in each Area each time. And then, when they have passed out to the Reserve, men who were obviously their inferiors have had the good luck to get through against less admirable competitors and have been granted their Permanent Commissions.

The Fortunes of Peace are no less heartbreaking than are the Fortunes of War. And the people who are turned down have just got to grin and bear it. They can console themselves with the thought that if they had never gone into the Air Force at all they would probably have struck far worse luck in civil life where their promotion in commerce would have been blocked by the appointment to the best jobs of utterly inefficient sons and nephews of directors of commercial firms.

At any rate they have had a very good time in the R.A.F. and have met a heap of good fellows whom they would never have met otherwise. They have learned a lot about law, order and discipline which will be very useful to them in their business careers. And with a bit of luck they may be called back to the R.A.F. within the next few years to take part in a really worth-while war to which they will come with their old seniority and the certainty of rapid promotion to commands in new squadrons, together with fresh chances of distinction or extinction.—C. G. G.

NAVAL AVIATION, U.S.A.

With the completion of this year's Summer course in aviation at the U.S. Naval Academy at Anapolis in August records show that, since the course was established two years ago, nearly 1,000 naval cadets have completed the ground school course and have flown with their instructors over 1,000,000 passenger miles without a single mishap to personnel or injury to material. The aircraft used are the war-time design F.5-L. and H-16 type flying-boats with Liberty engines.



MANŒUVRABILITY.

AT THE INTERNATIONAL AIR MEETING AT COPENHAGEN ON SEPTEMBER 4TH, 1927,

CAPTAIN H. S. BROAD, A.F.C.

flying a standard

MOTH

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tied for first place in the Aerobatics Competition competing against crack pilots from many European countries flying high powered aircraft

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SCHNEIDER TROPHY NOTES.

The Italian Team

Before the next issue of The Aeroplane appears the Schneider Trophy Contest will be over. At the time of going to Press there is very little information to guide anybody as to who is likely to win.

Through the kindness of Signor Guido Matteoli of *Aeronautica*, the great Italian aircraft paper, The Aeroplane is able to publish this week a photograph of one of the Macchi Racers. This is the type M.52, and is obviously a modification of the wonderful M.29, which put up such an extraordinary speed record in the Schneider Trophy Contest last year.

The only evident modifications are that the wings are somewhat back-swept. The fuselage is slightly altered, having a flatter back than last year's machines, which probably gives a better streamline, more in accord with practice and less with theory.

The engine is the F.I.A.T. A.S.3, which is similar to last year's A.S.2, but boosted considerably. Its nominal horse-power is 700, but, like our own engines, it probably gives in the region of 1,000 h.p., and the weight is somewhere about 950 lbs.

There are few rumours about the Italian machines, but there is no doubt that they are extremely fine aeroplanes. One report says that they are difficult on corners and that the representatives of the Italian Aero Club want the British Commission to consent to altering the course so as to make it something like an equilateral triangle, thus avoiding the two hairpin corners at each end of the course as it is at present.

The British Team.

The British Team has not had the best of luck so far, but nothing really discouraging has occurred at the time of writing.

H.M. Aircraft Carrier *Eagle* was two days' late in arriving at Venice, for no particular reason that can be ascertained at the moment. When she did arrive, owing to heavy weather outside the harbour the first cases containing the racing machines were not got into the sheds until Sept. 13. And next day there were still four or five other cases to come from the *Eagle*.

The British crews were then very busy on the second and third Supermarines and the second Gloster. To add to the difficulties of the British crew, Mr. Powell, the Superintendent of the Supermarine engineers, went down with pleurisy and had to be taken to hospital, thus putting a considerable amount of extra work on the rest of the crew, for Mr. Powell is a most valuable and energetic person.

The Italian authorities have done everything possible to help the British Team, and have given them very good sheds, slipways and general facilities. One snag about testing the machines is that they have to be towed for half-an-hour outside the sheds before starting up and taking off.

British Tests.

A Central News report published in various papers on Sept. 19 says :—

A speed of 325 miles an hour was attained this morning when the two remaining British machines entered for the Schneider Cup competition were given trial flights. The Gloster-Napier IV was piloted by Flt. Lt. S. M. Kinkead and the Supermarine-Napier S.5 by Flt. Lt. S. M. Webster. The flights, which lasted about thirty-five minutes, were undertaken in the presence of Sir John Higgins and Air Vice-Marshal Scarlett as well as Signor Balbo, the Italian Under-Secretary of State for Aeronautics, who congratulated the airmen on their performance and said that "there can be no doubt the English have a fine chance of winning."

This statement need not cause any alarm. There are in fact five British machines available for the contest. Presumably the newspapers thought that there was only one Supermarine and one Gloster.

The speed of 325 m.p.h., if it was attained at all, was probably done down-wind.

The Order of Starting.

The order of starting is to be as follows :—

(1) Flt. Lt. Kinkead, Supermarine-Napier S.5. (2) Major de Bernardi, Macchi-Fiat 52. (3) Flt. Lt. Webster, Supermarine-Napier S.5. (4) Capt. Guazzetti, Macchi-Fiat 52. (5) Flt. Lt. Worsley, Gloster-Napier IV.b. (6) Capt. Ferrarin, Macchi-Fiat 52.

Lieut. Williams, U.S.N., was to have started third, but, as already notified, will not be competing.

The Crusader Crash.

Some particulars are now available about Flt. Lt. Schofield's crash with the Crusader on Sunday, Sept. 11. The general opinion seems to be simply that he stalled in getting off. But an eye-witness says that it seemed as if he were well away and about fifteen feet off the water when he did a half-roll just as if he had tried to level the machine out against the engine torque and had only then discovered that his aileron wires had been coupled up the wrong way. That, of course, is impossible, but it was the impression that the turn-over of the machine gave to an experienced aviator.

Flt. Lt. Schofield's face was damaged, apparently by his goggles being driven into his forehead by the force of the water. And apparently his clothing was badly mangled. But he was expected out of hospital a day or two after the accident with nothing worse than a black eye and badly bruised legs.

Lt.-Col. W. A. Bristow, who was largely responsible for the production of the Crusader, has stated that Flt. Lt. Schofield was washed out of the machine backwards with such violence that his coat, waistcoat, trousers and boots were torn off and he was left in the sea in his shirt. One imagines that what happened was that Flt. Lt. Schofield, feeling the machine turn over, tried to dive out of the cockpit before he went into the water, and that when in the water he managed to get his clothes off so as to swim better. Col. Bristow's explanation is that the machine hit the water on one side, which tore off the starboard float, and that when the float was torn off the struts tore open the bottom of the fuselage through which the water entered and washed out the pilot.

May the best pilot and the best machine and the best engine win!

AIRCRAFT FOR MEXICO.

A *Reuter* Message of Sept. 14 states :—

El Universal, of Mexico City, states that a group of army airmen who have been sent to Europe to study the progress of aviation, are authorised to spend 500,000 pesos (roughly £50,000) on the purchase of aeroplanes for the Mexican Government.



OUR RIVAL.—The Macchi 52 (Fiat A.S.3. engine). The first picture of the Italian Defenders of the Schneider Trophy.—*(Photograph by courtesy of Signor Guido Matteoli, of "Aeronautica.")*

Blackburn
— IRIS —

THE FLAG-SHIP. The Secretary of State for Air going aboard the BLACKBURN "IRIS" (three Condors) for the cruise to the Baltic.

See "Aeroplane" Aug. 17th 1927.

On August 12th the "IRIS" left England. She has now covered a distance of 5,500 miles which included calls at Oslo, Copenhagen, Gydnia, Danzig, Helsingfors, Stockholm & Helden. When not actually flying the "IRIS" has been moored in harbour. She has encountered heavy seas & proved beyond doubt her reliability & seaworthy qualities.

The "IRIS" is admirably suitable for commercial & naval purposes. ○○○○



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THE ROYAL AIR FORCE.

The London Gazette.

Sept. 13.

General Duties Branch.—The following Plt. Offs. are promoted to the rank of Flg. Off.:—J. D'A. Keary, E. M. Thompson (Apr. 12); A. W. B. Hale (June 16); P. A. Moritz, H. T. A. Silcox (July 6); F. H. Bailey (July 7); J. B. M. Wallis, R. O. O. Taylor (July 12); C. S. John, D. Mackenzie (July 16).

The following Flt. Lts. are transferred to the Reserve, Class A (Sept. 13):—W. B. E. Powell, C. D. Spiers.

Wing Cdr. W. R. Read, M.C., D.F.C., A.F.C., is placed on the half-pay list, Scale B, from Sept. 19 to Nov. 30 inclusive; Flt. Lt. G. D. Daly, D.F.C., ceases to be seconded for duty under the Colonial Office (Sept. 12); Flg. Off. H. E. N. Burton resigns his S.S. comn. (Sept. 14).

Flg. Off. C. B. McIntyre is cashiered by sentence of General Court-martial (Aug. 30).

Medical Branch.—J. M. Ritchie, M.B., is granted a S.S. comn. in the rank of Flg. Off. for three years on the active list, with effect from and with seniority of Sept. 1; Flg. Off. A. F. Cook is promoted to the rank of Flt. Lt (Sept. 16); Flg. Off. M. D. Rawkins, M.B., B.S., is transferred to the Reserve, Class D (ii) (Sept. 17).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—H. J. Penrose (Aug. 29); L. Currie (Aug. 31). The following Plt. Offs. on probation are confirmed in rank (Sept. 13):—A. L. Muir, E. K. Rayson.

The following Flg. Offs. are transferred from Class A to Class C:—J. Spooner (Aug. 28); W. P. Wiltshire (Sept. 4); A. D. Page, M.M. (Sept. 11). Flt. Lt. H. Jennings relinquishes his comn. on completion of service (Sept. 12).

Auxiliary Air Force.—General Duties Branch.—The following Plt. Off. to be Flg. Off.:—No. 605 County of Warwick (Bombing) Squadron.—C. R. Field (Aug. 31).

Princess Mary's R.A.F. Nursing Service.—The following Staff Nurses are promoted to the rank of Sister:—Miss I. D. Mardon (Aug. 1); Miss E. W. Griffiths (Sept. 1).

Appointments.

Week ending Sept. 19.

General Duties Branch.—Wing Commander R. M. Field, to R.A.F. Depot, Uxbridge, Supernumerary on ceasing to be seconded to the Finnish Government, 11/9.

Squadron Leader D. G. Donald, D.F.C., A.F.C., to R.A.F. Base, Calshot, 12/9.

Flight Lieutenants P. C. Wood and G. M. Knocker, to R.A.F. Base, Calshot, 12/9. D. L. Evans, M.C., D.F.C., to R.A.F. M.T. Depot, Shrewsbury, 19/9.

Flying Officers F. E. Arnold, D.F.C., and Victor Croome, to No. 1 School of T.T. (Apprentices), Halton, 19/9. L. E. Cutforth, to R.A.F. Depot, Uxbridge, 20/8.

Pilot Officers A. L. Mortimer and C. D. C. Boyce, to R.A.F. Base, Calshot, 12/9. N. F. V. Henkel, to R.A.F. Depot, Uxbridge, on appointment to a S.S. Comn. as Plt. Off. (on probation), 9/9.

Medical Branch.—Wing Commander H. W. Scott, M.B., B.A., to No. 21 Group H.Q., West Drayton, for duty as Senior Medical Officer, 4/10.

Squadron Leader (Dental) A. K. Macdonald, to R.A.F. Depot, Uxbridge, on appointment to a Temp. Comn., 5/9.

Flight Lieutenants E. G. Howell, to R.A.F. Depot, Uxbridge, 27/8. W. P. Conolly (Q.Mstr.Med.), to R.A.F. Depot, Uxbridge, 2/9.

Flying Officers G. T. O'Brien and Patrick O'Callaghan, to Research Laboratory and M.O.S. of I, on appointment to S.S. Comns., 8/9.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident at Hinaidi, 'Iraq, to a Bristol Fighter machine of No. 30 (Bombing) Squadron, 'Iraq, on Sept. 15, Wing Cdr. Arthur Bruce Gaskell, D.S.C., the pilot of the aircraft, was killed, and 361810 L.-AC. William Ronald Kittow-Roberts died of injuries.

The Air Defences of Great Britain.

The final training for the current year of the Observer Corps in co-operation with Units of the R.A.F. began on Sept. 19 and will end on Sept. 23.

During these exercises Observer Posts will be manned in Essex, Sussex, Hampshire and Kent and seven R.A.F. Squadrons will operate with them.

The organisation of the Observer Corps was described in The Aeroplane of July 27 and part of the Corps did excellent work in connection with Air Defence Exercises at the end of July.

The Observer Corps is composed of volunteers enrolled as Special Constables.

A Service Coastal Cruise.

A Flight of five Supermarine Southampton Flying-Boats belonging to No. 480 (Coastal Reconnaissance) Flight, R.A.F., is making a tour of 37 Coast towns in Great Britain. They left Calshot on Sept. 4 and flew westward.

The Flight visited Torquay on the 5th, Penzance on the 6th, and Tenby on the 7th. On the 8th they visited Barmouth and Criccieth and Blackpool on the 9th. Southport and Rhyl on the 10th and Colwyn Bay on the 12th. They anchored in the Clyde off Greenock on the 13th.

They reached Montrose on the 14th and West Hartlepool and Scarborough on the 15th. On the 16th they went to Skegness and Hunstanton, and on the 17th to Cromer and Gt. Yarmouth. At Cromer the Secretary of State for Air and the Lord Mayor of Norwich were taken for a flight along the Norfolk coast.

No. 480 (C.R.) Flight is commanded by Sq. Ldr. I. T. Lloyd, R.A.F.

The Fleet Air Arm.

The Times of Sept. 16 states:—

Fleet orders announce that the following have been selected to undergo the next qualifying course for telegraphist air gunner:—B. P. Hill, *H.M.S. Barham;* W. E. Delaney, *Coventry;* R. A. Parkes, *Victory;* G. B. Adams, *Tiger;* A. G. Knell, Anti-Submarine School, Portland; L. Smith, *Barham;* A. V. Dyer, *Versatile;* L. W. Hoose, *Pembroke;* A. T. Hoare, *Vega;* T. E. Andrews, *Whitshed;* W. Mitchell, *Vansittart;* F. G. Goodman, *Eagle;* and A. G. Leek, *Vivid.*

They will join the Armament and Gunnery School, R.A.F., on Oct. 31, for the course, which lasts until Dec. 9. This will be followed by a wireless course at the R.A.F. Base, Gosport, from Dec. 13 to Feb. 10, 1928. Names of further volunteers for telegraphist air gunner are required.

The Great Yarmouth Re-union Dinner.

The Eighth Re-Union Dinner for Officers and ex-Officers who have served at the Air Station, Great Yarmouth, will be held at the Café Royal (Regent Street Entrance) on the last Saturday in October (Oct. 29) at 7.30 for 8 o'clock.

Application for tickets (15s. 6d. each exclusive of wines) should be made as soon as possible to G. F. H. Bloom, 17, Welbeck Street, London, W.1.



BONNY SCOTLAND.—A Supermarine Southampton (Napier Lions) in dock at Greenock, in the Firth of Clyde.

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SOME HISTORIC ACHIEVEMENTS IN RELIABILITY

ROLLS-ROYCE AERO ENGINES in a Handley-Page aeroplane flew from **ENGLAND** *to* **INDIA** *in* 1919.

ROLLS-ROYCE AERO ENGINES in a Vickers-Vimy aeroplane flew across the **NORTH ATLANTIC** *in* 1919.

ROLLS-ROYCE AERO ENGINES in a Vickers-Vimy aeroplane flew from **ENGLAND** *to* **AUSTRALIA** *in* 1919.

ROLLS-ROYCE AERO ENGINES in a Vickers-Vimy aeroplane flew from **ENGLAND** *to* **SOUTH AFRICA** *in* 1920.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew across the **SOUTH ATLANTIC** *in* 1922.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew **round AUSTRALIA** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Fokker monoplane flew from **HOLLAND** *to the* **EAST INDIES** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

ROLLS-ROYCE AERO ENGINES in Dornier-Wal flying boats flew from **MOROCCO** *to* **SPANISH WEST AFRICA** *in* 1926.

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The R.38 Memorial Prize.

The R.38 Memorial Prize for 1927 has been awarded to Wing Commander T. R. Cave-Brown-Cave for his paper on "Safety from Fire in Airships." The paper will be published in the Journal of the Royal Aeronautical Society.

Wing Cdr. T. R. Cave-Brown-Cave, C.B.E., is attached for special duty to the Royal Airship Works at Cardington.

Swimming in the Basrah Area.

The Basrah Area (R.A.F.) Annual Swimming Gala was held at the Basrah Swimming Pool on Aug. 19. No. 84 (Bombing) Squadron won 10 events out of 16 and also took four second places and won the water-polo match.

The Times of Mesopotamia of Aug. 21 states :—

In the Plate Diving competition one of the competitors, L-AC. Parfitt, failed to rise after the usual interval, and other competitors had to go down to fetch him up.

Artificial respiration was resorted to and he eventually recovered. It was afterwards found that he had collected 36 plates, and Sjt. Coleman, the winner, sportingly gave him the prize.

The winners of the various events were :—*One length (free style)*, Flg. Off. Glenn (14 Sqdn.). *Long plunge*, L-AC. Cole (84 Sqdn.). *Two lengths*, L-AC. Collier (84 Sqdn.). *Plate Diving*, Sjt. Coleman (84 Sqdn.). *One length (breast stroke)*, L-AC. Huggins (84 Sqdn.). *Plain diving*, L-AC. Brough (Arm. Cars). *Tug-of-War*, No. 1 Section, Arm. Car Wing. *Three lengths*, L-AC. Collier (84 Sqdn.). *Combination suit-race*, L-AC. West (84 Sqdn.). *Back stroke*, Cpl. Bratt (R.A.F. Base). *Inter-Unit Relay race*, No. 84 Sqdn. *Four length (free style)*, L-AC. Collier (84 Sqdn.).

The relay race between the R.A.F. and the Basrah Club was won by the R.A.F.

ARTHUR BRUCE GASKELL.

Wing-Commander Arthur Bruce Gaskell, D.S.C., was killed on Sept. 15, at Hinaidi, along with Leading Aircraftman W. R. Kittow-Roberts, his passenger. According to the accounts from Hinaidi, he had taken up a Bristol Fighter for a practice flight, stalled the machine while turning low down to land, and spun into the ground in the usual way. So these two deaths also may be counted among the entirely avoidable accidents which have occurred in the Royal Air Force through the obstructive policy of the civilian Technical Departments.

Arthur Bruce Gaskell was one of the very earliest naval pilots of the Royal Flying Corps. He was born on Sept. 7, 1888, and joined the Royal Navy through the *Britannia* in 1902. He was promoted Sub-Lieutenant in December, 1907, and Lieutenant in June, 1910.

Early in 1913 he joined the Naval Wing of the Royal Flying Corps, and learned to fly at the Central Flying School at Upavon, his R.Ae.C. Certificate, No. 503, being dated June 2, 1913.

When the Royal Naval Air Service was formed on July 1, 1914, he was gazetted Flight-Lieutenant, and was promoted to Flight-Commander on September 26, 1914.

In the early days of the War 1914-18 he served on the Belgian coast. He was in the unfortunate *Hermes* when she was torpedoed because she was brought across the Channel from Dunkerque at her full eight knots in broad daylight instead of at night, but he escaped undamaged. He was commended by the Director of the Air Department, Admiralty, for meritorious work in air attacks on Ostende, Zeebrugge and Bruges on February 7, 12 and 16, 1915.

From August, 1915, he served in the Dardanelles and was promoted Squadron Commander on January 1, 1916. From February, 1916, to August, 1918, he served in the Mediterranean.

On April 26, 1918, he was awarded the Distinguished Service Cross,—

In recognition of his service on the occasion of the evacuation of the Thermi Aerodrome on October 9 to 15, 1917, under continuous bombardment by the enemy.

As a Sq. Ldr. R.A.F. he did a course of instruction at the School of Navigation at Calshot in 1920, and in February, 1921, he was appointed to the School of Technical Training (Men) at Manston. Thereafter he was appointed to the Coastal Area, and on January 25, 1922, he was appointed to 29 Group at Donibristle.

On January 1, 1924, he was promoted Wing-Commander, and in May of that year went to the R.A.F. Staff College at Andover. In May, 1925, he was appointed to the Directorate of Equipment at the Air Ministry, and in September, 1926, he was appointed to the Air Staff in 'Iraq for training duties.

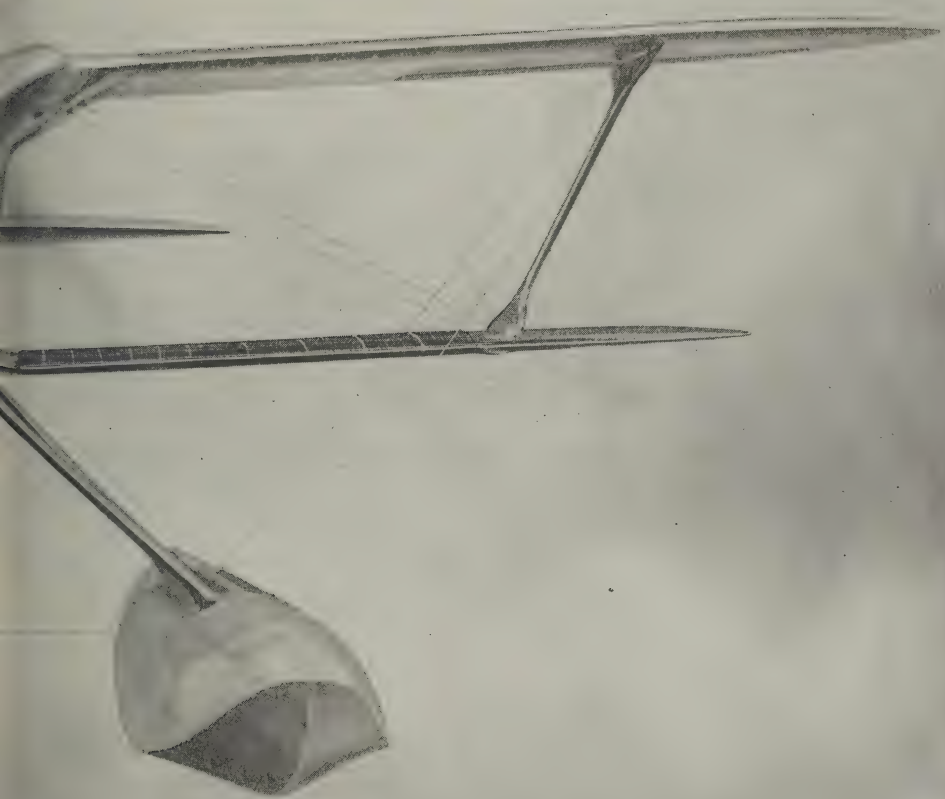
With such a record of distinguished service below the age of forty everything pointed to a future career of great usefulness in the King's Service, and there is real tragedy in the loss of such a life in an obviously avoidable accident.

Wing-Commander Gaskell was one of the finest examples one has ever met of the Regular Naval Officer of the best class and type. He won the admiration and affection of all who served with him. His juniors loved him for his kindly nature and his goodness of heart. His seniors valued him for his reliability, his sound judgment, and his ability as an organiser and administrator. There are many who could be better spared, and few who would be so deeply regretted. He leaves a widow and two young daughters, to whom all will extend their deepest sympathy.—C. G. G.



A PEACE-TIME SQUADRON.—The Personnel of No. 6 (Army Co-operation) Squadron, Royal Air Force at Mosul, then commanded by Sq. Ldr. D. F. Stevenson, D.S.O., M.C. A short history of the Squadron, and two photographs of sub-formations working in Kurdistan, appeared in "The Aeroplane" of Sept. 29 last year, when it was pointed out that No. 6 Squadron is the oldest Squadron in the R.A.F., as it has never been disbanded. The Squadron is equipped with Bristol Fighters with Rolls-Royce Falcon engines.

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THE LONG-DISTANCE FLIGHTS.

The World-Tourers.

Messrs. Brock and Schlee, who performed the amazing feat of flying from Newfoundland to Japan between Aug. 27 and Sept. 11, inclusive, arrived at Tokyo on their Stinson Detroiter "Pride of Detroit" (Wright Whirlwind engine) on Sept. 14, after having waited at Omura, Nagasaki, for the passing of the typhoon which did so much damage in Japan during the intervening days.

There seems little likelihood of their continuing their journey by way of Midway Island. One Japanese paper remarks very sensibly that if they attempt the 2,400-mile flight to that minute spot of ground they will have deserved a verdict of "Suicide while insane."

A Reuter telegram from Midway Island on Sept. 12 said that the expected petrol and oil supplies for them had not arrived on that date.

So far as it has gone, this is certainly the most sensible long-distance flight the World has yet seen, and one would very much like to see them achieve their ambition of flying round the World. One hopes therefore that they will make the trip successfully by way of the Aleutian Islands and Alaska, though at this time of the year probably the weather will be utterly unsuitable.

Mr. Hinkler's Flight to Riga.

Mr. Bert Hinkler's flight to Riga and back on the Avro Avian (Cirrus engine), when he went to test the Beardmore Fighter, was apparently quite an interesting experience, judging by his own account of it in a conversation recently.

He took straight off across the North Sea from about Margate for Ostende with a good following wind, following a compass course South of Hannover to the Baltic. To avoid crossing the notorious Polish Corridor on each side of Danzig he kept out to sea and was out of sight of land till he struck the East Prussian coast an hour later, rejoining the coast near Memel, in Lithuania.

He speaks most highly of the Letts, who gave him a very good time in Riga. Incidentally the weather there and nearly all the way along the Baltic was beautiful, except for some thunderstorms near Danzig.

Such a long non-stop flight on the little Avian caused considerable sensation in Riga and every newspaper in Latvia published articles on and photographs of him and his machine. The polyglotness of the population of Riga may be gathered from the fact that its newspapers, of which apparently there is about one to every 5,000 inhabitants, are printed, according to the leanings of the proprietor, in German, Russian or Lettish.

Besides being lunched and dined in state Mr. Hinkler was decorated with the Badge of the Latvian Air Service, an enormous gold eagle with a red swastika above it, as a mark of appreciation for his flight and his subsequent displays of aerobatics. This decoration has to be awarded by the unanimous vote of the officers of the Air Service, and it has never before been given to a foreigner.

After testing the Beardmore machine, Mr. Hinkler left Riga on Sept. 9 and reached Berlin that evening, having to fight against a strong head wind all the way. He was immensely impressed by the air traffic at Tempelhof, and spent the next day sitting on the restaurant terrace of the traffic buildings watching the aeroplanes stream in and out on the various Luft-Hansa lines. On Sept. 11 he flew non-stop from Berlin to Croydon, which is certainly the first time this journey has been done non-stop on a light aeroplane.

Before he started from Berlin the German supply people filled his machine up to the limit with petrol and oil, thus putting her weight about 250 lbs. above that of the machine's Airworthiness Certificate. In spite of this, Mr. Hinkler said, the machine got off quite easily and flew as comfortably as ever. This after all is natural, for the Airworthiness Certificate is granted for the strength necessary to withstand diving the machine at its limiting velocity.

Over the Channel, which he again took (most reprehensibly) on the long-sea course, he met a wind of about 40 m.p.h., which delayed him still further. In spite of this he covered the 650 miles from Berlin to Croydon in 8½ hours.

The Irish-American Team.

The projected flight from Southern Ireland to New York, which was so much advertised by the Press of the British Isles as the "Do or Die Atlantic Flight," has done neither.

Mr. R. H. McIntosh, the well-known Imperial Airways pilot, and Commandant Fitzmaurice, of the Irish Free State Army, started on Sept. 16 from Baldonnel Aerodrome, near Dublin, in an attempt to fly to New York in a Fokker monoplane with a Bristol Jupiter engine. They left at 13.30 hours, Irish time, and at midnight news was received that the machine had made a forced landing at Ballybunion, County Kerry, near the mouth of the river Shannon.

Reports state that they flew 300 miles out into the Atlantic, where they met a storm and a forty-mile-an-hour gale, and so decided to return. They were reported as passing seaward over the coast of Galway at 15.30 hours and were seen from Mutton Island off the coast of County Clare at 17.40 hours. Also they were reported nearly two hours later at Carrigaholt, only fifteen miles south of Mutton Island. They landed at Ballybunion at 19.30.

The machine was flown back to Baldonnel by Mr. Piercey, the well-known English civil pilot, who has been acting as mechanic-in-chief at Baldonnel while the machine has been waiting to start. Mr. McIntosh apparently took a chill after the machine landed at Ballybunion and remained there pending his recovery.

According to a report from Dublin, he and Commandant



A BRITISH NON-STOP RECORD.—The Avian (Cirrus) 1,200 miles to Riga.—Left to right Lt.-Col. Skurbe (Assistant Commandant, Aviation Section, the Latvian Army); Herr M. Veicherts (The Eastern Export Co., representing A.D.C. Aircraft Ltd.); General Roushevitch (Chief of the Ordnance Dept., Latvian Army); Mr. Bert Hinkler (the modest hero, who flew the machine); and Colonel Indans (Officer Commanding the Flying Training School, Riga).

VICKERS LIMITED

Aviation Department,
Vickers House, Broadway,
LONDON, S.W.1.

AEROPLANES, FLYING BOATS,
AMPHIBIANS AND SEAPLANES
FOR
COMMERCIAL, MILITARY
AND NAVAL USE.



A Squadron of Vickers "Vernon" (Napier Lion Engines) Troop Carrier and Ambulance Aircraft in Iraq, where they are employed by the Royal Air Force in the maintenance of our Imperial Lines of Communication.

R.A.F. Photograph. Crown Copyright Reserved.

Fitzmaurice are determined to make another effort to cross the Atlantic. A Reuter telegram from New York, sent on Sept. 17, says that Mr. William Leeds—son of the rich American woman who married a Greek Prince some years ago—who has been the financial backer of the venture, announced some days earlier that he had cabled to Mr. McIntosh releasing him from an obligation to make the flight, owing to the wave of public sentiment against further trans-Atlantic ventures.

One hopes that Mr. McIntosh will let his common sense, which he has so often demonstrated as an air-line pilot, overcome any qualms he may have about abandoning the venture through fear of being suspected of cowardice. His reputation as a skilful and gallant pilot is much too high here to suffer in any such way. If he does make another attempt, even if he succeeds, it will only reflect on his good sense and may decrease the confidence which employers, or future passengers, will have in his judgment as to taking unnecessary risks. He is one of the best pilots we have in this country, and nobody wants to lose him on a foolish venture of this kind.

So far as Commandant Fitzmaurice is concerned, he is at any rate to be congratulated on having had the pluck to start on such a trip. His name shows him to be of good Norman-Irish descent, and his taking part in the attempt proves that his courage is of a higher order than that of his compatriots who shot the good Mr. Kevin O'Higgins for wanting to put them out of a job by reducing the size of the Free State Army, or those who crucified young Lendrum, the District Inspector of Constabulary, in County Clare to a cart-wheel and wheeled him down below high-water mark to drown, or those who towed a wounded and bound British officer behind a motor-car in County Wicklow and compelled his fiancée to drive till he died, or those who in 1798 burned the barn full of women and children at Clohogue in County Wexford. So it would be a pity to waste him in the Atlantic.

Mr. Courtney's Undertaking.

The following letter from Mr. F. T. Courtney, written from Corunna, will give everyone a perfectly clear idea of the difficulties which he strove so determinedly to overcome. One believes that Mr. Courtney's was the only reasonable attempt of the year to fly the Atlantic under proper conditions. His failure, and his explanation, will add to rather than detract from his reputation as a pilot who uses his brains and knows where bravery ends and recklessness begins. One wishes him luck in his next attempt. Here is his little story :—

"When I started on this affair I realised that, however you looked at it, it was all wrong to try flying over large stretches of water on a land machine. Also I realised that wireless must of necessity play a large part both for security and for navigation. Also for purposes of safety one engine alone left one with no margin of safety with which to deal with certain situations.

"These considerations demanded a flying-boat, a wireless and directional-wireless set of more than nominal value, and at least two engines. This in turn meant a rather larger equipment than would otherwise be necessary. Thus it was clear that I should have all my work cut out, as British Aviation goes to-day, to get things together at all, without saddling myself with all sorts of experimental and test work on the machine.

"In using a Napier-Dornier, therefore, with the same equipment as used by Commandante Franco in a similar flight, I reasonably assumed that his experience on a precisely similar outfit would form a certain and sure basis for my own estimates of results.

"The Dornier Company were not, however, in a position to let me have, in the period available, a new machine, and therefore arranged to recondition Amundsen's old Polar machine for the job. This machine, as it turned out, was in astonishingly good form considering its history of banging about on ice-floes, and for ordinary purposes was as good as new. When it came, however, to overloading the camel's back, as was inevitable in a case like this, the age of the machine managed to provide a few last straws.

"The machine, as always happens in these cases, was ready a little later than I hoped, and on June 28 I brought it to England after the principal load tests had been carried out in Germany.

"Here we settled down to fit the wireless. Seeing that it was the same set that Franco had used with exceptional success I imagined I had every reason to expect that it would have the same success, without any experimentation, as on precisely similar machine. To cut a long story short, we did all sorts of tests with it, pulled the machine in and out, and somewhere about Aug. 9 definitely decided that the directional wireless could not be made to work. To my intense disappointment, therefore, we had to strip the whole directional outfit, on which a large part of my programme had been based, and fit an ordinary receiving set instead.

"Thus we had arrived to somewhere about the middle of August before we had had a chance to do anything with the machine itself.

"Obviously it is essential on a job like this that the people who have to do the job must have certain first-hand knowledge of the machine's possibilities in general, and that therefore they must do certain tests as to take-off, speeds, consumptions, etc. This normally we should have done, but we had arrived at a period of the year where little time was left for weather, and we had to be prepared to seize any chance that come along. Therefore we had to make assumptions on the figures we had, and prepare to leave.

"When we put on a full load of petrol, however, the camel's back showed signs of train. Leaks developed at certain rivets which normally would not have mattered at all, but which let in enough water to make all the difference where we were trying to get off with the last drop of petrol. Therefore we had to take out the petrol, take her ashore, and do repairs, which put us back still further.

"At last, late in August, we imagined we were all ready to leave, and tried to get away one evening with a load we were certain we could carry. We could not get off. With a lighter load we still could not get off.

"I am given to understand that the charitable-minded opined that we did not particularly want to get off. But one of the most experienced flying-boat pilots of the Air Force also failed to do so. It seemed to me that, with no technical equipment at my disposal, it would be a waste of time for me to fool about with things myself, and I therefore asked the Dornier Works to investigate for me. They very kindly and promptly sent over their engineer and pilot to help. The engineer calculated the load at which we had previously taken off in Germany and the pilot failed to take off with it.

"Subsequent weighing of the machine—a sure test for performance failure, and a Herculean labour with the equipment of an Air Force Station—showed two interesting things :—that in the fitting up of the machine and in the effecting of minor repairs the added weight was a rather surprising figure; and that, in fitting extra tanks, the bulk heads had formed well-hidden pockets into which water could get without an outlet, and into which water had got in former small leakages, greatly adding to the 'empty' weight.

"All this came on top of the fact that an old machine reconditioned with a certain amount of haste must necessarily be somewhat up in weight over a new machine. So that it can be seen that the increase in weight was in no way the fault of the machine as such, but was merely sufficient to make a great difference where the last pound counted.

"At this point we had come to the end of August, and an already atrocious Summer left little prospects of weather and we had little hope beyond 'having a cut at it.' I must point out that during these two months I had the daily experience of getting weather forecasts and following the subsequent weather results, and, whether they agree or not, the meteorologists are certainly up against amazingly rapid changes in Atlantic conditions.

"Also, many of our most important tests had not been carried out owing to lack of time. Our consumptions were only vaguely known, and the engine-people had been given no chance of making those various adjustments which make all the difference in getting the 100% efficiency without which such a flight should not start. Certain tests for our night navigation were not done, and many facts concerning our equipment were untried.

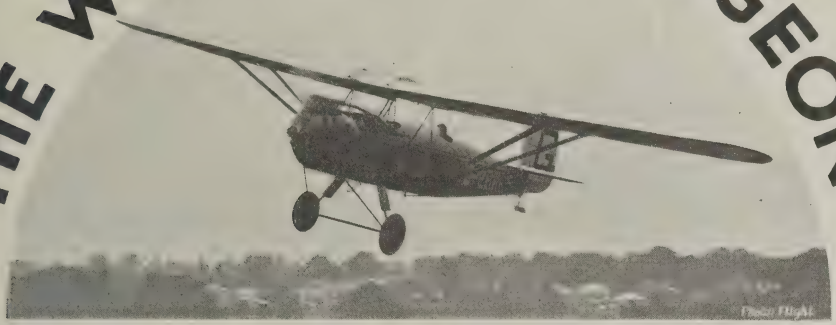
"We hoped that the flight to the Azores would help us in most of these things, but in the meantime daylight was so short that we had a bare chance of getting there in the time, and night was so long as to give us no reasonable chance of starting with a night flight, with no direction wireless and no daylight the other end to correct for navigation errors on a dark night. On a certain weather forecast therefore, we went to Plymouth, as giving us another hour of daylight, and left at daybreak for the Azores.

"The rest is, I think, known. We ran into a head wind which effectively prevented any chance of being anywhere near the Azores by nightfall, and we made for Finistern. The fact that Downer's excellent navigation brought us within a few miles of that point, in about four miles visibility after eleven hours over the open sea, not only reflects credit on Downer, but also shows that our estimate as to position and wind strength were correct.

"We could, of course, have gone on, come down in the water, used our wireless and been dramatically rescued, abandoning our machine to the cruel waves. As it happened however, this outfit was insured in what I consider a very sporting manner by Lloyd's to enable a British pilot to fly to America. Any risk taken with the prospect of getting there was in every way justifiable; any risk taken merely to effect something dramatic was not.

"We waited in Corunna in the vague hope that a certain type of weather might crop up to enable us to get on with

THE WESTLAND WIDGEON



THE IDEAL LIGHT AEROPLANE

KING'S CUP.

Westland Widgeon III, **2nd** & **5th.**

NOTTINGHAM FLYING MEETING.—PELHAM STAKES.

Westland Widgeon (Standard Machine with Cirrus Engine), **FIRST.**

GROSVENOR CUP.

Westland Widgeon (Genet Engine), **3rd.**

THE EVIDENCE OF THE KING'S CUP RACE.—

11 Light Aeroplanes started. 3 only completed the course. Of these **2 Westland Widgeons started** and **2 completed the course**, and in order of average speeds over the course their positions were **1st** and **2nd.**
The same machines were the ones which took part in the PELHAM STAKES and the GROSVENOR CUP.

CONCLUSION.—

The Westland Widgeon III is unrivalled for speed and reliability under the most adverse weather conditions.

NOTE THESE POINTS:—

1. Very strongly built and substantial construction for standing up to hard work.
2. Stout under-carriage, steel springs and Ferodo dampers.
3. Wings braced with struts; no rigging to need adjustment; cannot get out of truth.
4. Excellent view for both pilot and passenger owing to parasol construction.
5. All machines furnished with aerobatic certificate of airworthiness for total weight of 1,400 lb. allowing for passenger, pilot and luggage.
6. Can be fitted with dual control.
7. Petrol consumption—20 miles per gallon.
8. Wings fold for garaging in small space.

Can be fitted with Cirrus II or Genet Engine.

PRICE (with Cirrus II Engine) **£750.** Ready to Fly away from Works.

ENQUIRIES SOLICITED.

WESTLAND AIRCRAFT WORKS

(BRANCH OF PETTERS LTD.)

YEOVIL.

Telegrams: "Aircraft, 141, Yeovil." Telephone: Yeovil No. 141.

some reasonable prospect of getting to America. There now seems no hope of that this year, especially with the faults of our equipment, and we will have to give it up. It is not very easy thus to throw away months of work on the part of others besides ourselves, but at any rate we are in the position to try again, if we can get the support, to try the very many and valuable lessons we have learned from this attempt."

Les Affaires Levine.

The absence of THE AEROPLANE'S artist, Mr. Leonard Bridgman, in Venice, prevents the publication of the proper scenario for the next reel of the Levine aero-film. Fans will remember that the last reel ended with the emotioning arrival at Croydon of Mr. Levine all alone in the "Miss Columbia." Further movements of Mr. Levine not having been taken as a slow-motion picture there is some difficulty in following them.

Apparently he treated with, or entreated, Mr. Hinchliffe, of Imperial Airways, to pilot him to America. Mr. Hinchliffe consented, Imperial Airways raised objections to releasing one of their best air-line pilots on such a crazy venture and told Mr. Levine that if he wanted Mr. Hinchliffe to break his contract with Imperial Airways he (Levine) would have to pay for his fun, by buying or insuring Mr. Hinchliffe.

After all, this was quite a justifiable move on the part of Imperial Airways, for though Mr. Hinchliffe is one of our most brilliant civil pilots he has undoubtedly acquired a very high percentage of his experience at the expense, in petrol and oil and one or two crashes, of Imperial Airways Ltd.

Eventually an agreement was reached on this financial question and "Miss Columbia" was flown to the R.A.F. Aerodrome at Cranwell. This appears to have been an act of cosmopolitan courtesy on the part of the Air Ministry,—one can hardly call it international courtesy because Mr. Levine is not exactly 100% American.

Then further complications set in. A Miss Boll, about whose wealth and jewellery the newspapers have told us quite a good deal, wished to go as passenger on the Atlantic journey. Without casting reflections on her physique, Mr. Hinchliffe objected to carrying unnecessary weight which if not carried would permit the machine to carry a few gallons extra petrol, which might make all the difference between reaching land or not reaching it. Then there was some more rapid action of a kinematographic kind and Miss Boll tearfully agreed to be washed out.

Since then the Hinchliffe-Levine combination has been debating whether to take the entirely unnecessary risk of a trans-Atlantic flight or to have a cut at the World's Long-Distance Record. Newspaper correspondents who have been in touch with the scheme have written of a non-stop flight to Calcutta.

On Saturday morning, Sept. 17, they tried to start from Cranwell on an Eastward trip, but the machine failed to get off. Then Mr. Hinchliffe was ready to start on the 19th, but Mr. Levine had disappeared to Paris.

(To be continued.)

French Long Distance Flights.

Four French aeroplanes started from Paris on Sept. 13 on propagandist flights.

A Potez biplane manned by M. de Marmier and M. Favreau crashed while taking off the aerodrome at Etampes with the intention of flying to Siberia. Fortunately the aviators were not hurt.

Capt. Pelletier Doisy, with an engineer-pilot and a mechanic, started from Villacoublay intending to travel day and night over a course including Vienna, Bukarest, Constantinople, Cairo, Tunis, Casablanca and Paris. They intended to make Bukarest their first landing but were compelled by bad weather to land at Vienna. They were later reported as having landed at Cairo on Sept. 16 and as having left shortly afterwards for Casablanca. He and his crew landed at Le Bourget at 18.45 hrs. on Sept. 19, having flown from Casablanca non-stop in 12 hrs. 55 mins.

Lieut. de Vitrolles and a Serjeant-Navigator started from Le Bourget, intending to do a high-speed flight to Tunis and back,—3,750 miles. They reached Tunis in 28 hours. They started on their return journey at 11.00 hours on Sept. 14, and landed at Oran, Algeria, at 17.30 hours, left there at 06.00 hours on Sept. 15 and made a forced landing about 18.00 hours that day near Valencia (Spain) and crashed their machine.

Capt. Cornillon and Lieut. Gerardot started on a flight to Beirut, Syria, navigating by directional radio. They reached Bucarest that evening without landing on the way.

All of which shows that British aeroplanes are not the only ones which fail to start or arrive on long-distance flights.

AIRCRAFT AND ARCHÆOLOGY.

The September issue of *Antiquity*, the quarterly review of archæology, edited by O. G. S. Crawford, and published by the Oxford University Press, is as interesting as ever. Mr. Crawford, who himself served in the R.F.C. during the War, is a great believer in the value to archæology of research by aircraft, and the current issue of *Antiquity* has an extremely interesting article on "Pre-Historic Agriculture in Britain," illustrated by photographs taken by the Aircraft Operating Co. Ltd. during the check survey which that firm did for the Ordnance Survey. The author of the article, Mr. E. Cecil Curwen, is to be congratulated on his ingenuity in wedding prehistoric science in agriculture to our very latest method of discovery.

Staff officers and other people who take their work seriously will find a great deal more in the September issue of *Antiquity* to enlighten them on the racial peculiarities of the different people with whom they will have to deal in the next war. There is particular interest in an article by Mr. R. G. Collingworth on "Cycles in History." This has nothing to do with the common or roadside vehicle vulgarly known as the Stink-Wheel, but deals with History's unfortunate habit of repeating itself.

The R.A.F. is so sprinkled over the surface of the Eastern Hemisphere in these days that really *Antiquity* ought to find a place in every R.. .F. mess, for there is always something in it concerning practically every area in which the R.A.F. operates, all the way from Leuchars to Lucknow.—C. G. G.

THE KHARTUM—KISUMU SERVICE.

The seaplane service from Khartum to Kisumu down the White Nile will be re-opened at the end of September. One machine left Cairo for Khartum on Sept. 13.

The service was started at the beginning of this year by the North Sea Aerial and General Navigation Company of Leeds and experienced a great deal of bad luck.

The route of the service is about 1,400 miles and the service saves at least eight days between England and Kenya.

LIGHT AEROPLANE RECORDS.

The following performances have been reported to the Committee of the Royal Aero Club :—

1st Category, Two Seater: The Hon. Lady Bailey on D.H. Moth, 30/80 h.p. Cirrus, July 8, 1927, *Height* 5,268 *Metres* (17,283 *feet*).—

This performance has been confirmed as a World's Record by the F.A.I.

3rd Category, Single Seater: Mr. H. S. Broad on D.H. Tiger-Moth, 32/130 h.p. D.H. engine, Aug. 24, 1927. *Speed over* 100 *kilometres* : 300.1 *kilometres* (186.4 *miles*) *per hour*

3rd Category, Single Seater: Mr. H. S. Broad on D.H. Tiger-Moth, 32/130 h.p. D.H. engine, Aug. 29, 1927. *Height* 5,851 *metres* (19,196 *feet*).

These last two performances have been submitted to the F.A.I. for acceptance as World's Records.

PLACE AUX PLATITUDES.

A dinner "To Women Aviators and Motorists" was given by the Women's Engineering Society at the Lyceum Club on Sept. 16. Mrs. L. A. Willson, M.B.E., President of the Women's Engineering Society 1925-26, was in the Chair.

Among the Guests were Mrs. Maurice Hewlett, Mrs. Eliott-Lynn, the hon. Mrs. Bruce, Miss M. Cottle and Colonel the Master of Sempill.

Supporting the toast to Women Aviators and Motorists, which was proposed by the chairman, Col. Sempill said that the aeronautical community owed a great debt of gratitude to women. Mrs. Maurice Hewlett had been ably followed by Lady Bailey and Mrs. Eliott-Lynn. More valuable work was being done by women at the National Physical Laboratory and the Royal Aircraft Establishment where women were doing abstruse calculations and mathematical analyses in connection with aircraft performance.

Colonel Sempill went on to express his alarm at the possibility of legislation being introduced to prevent Atlantic flights and said that *Endeavour* must go its own way. He said that Mrs. Bruce and Miss Cottle had done so much for motoring that he wished they would turn their attention to aviation.

Replying for the Women Aviators Mrs. Eliott-Lynn said that she had great hero-worship for Mrs. Maurice Hewlett who had run her own aircraft factory and taught a good many men to fly. Mrs. Lynn said that flying was easier than driving a car or riding a bicycle because there was no traffic in the air. She regretted the lack of municipal aerodromes in this country, and enumerated the virtues of other countries in this respect.

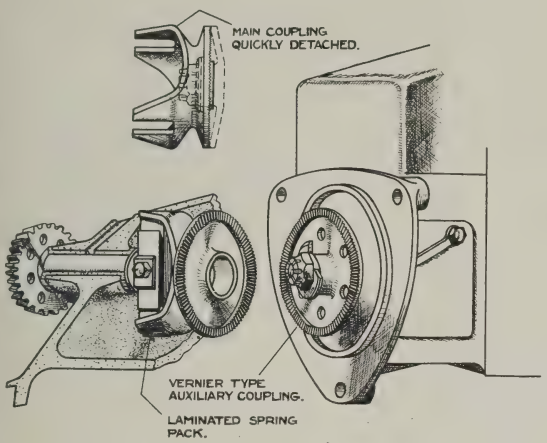
She thought the Press was to blame for the unpopularity of flying because it always stressed the accidents, most of which Mrs. Eliott-Lynn attributed to *joie-de-vivre* on the part of young pilots.

[The Speaker evidently does not realise that Service training is not quite the same thing as garden-party touring on a Moth.—C. M. MCA.]

Mrs. Bruce responded briefly and with extreme modesty for Women Motorists and Miss M. Cottle described the joys of motor cycle trials.

Quite why the Women's Engineering Society should have chosen Women Aviators and Motorists as the object of their hospitality one has yet to understand.—C. M. MCA.

FEATURES IN THE DESIGN AND CONSTRUCTION OF THE "Bristol" JUPITER SERIES VI RADIAL AIRCOOLED ENGINE



THE BRISTOL AEROPLANE CO., LTD., FILTON, BRISTOL.

No. 12.—Magneto Driving Coupling

The Magnetos used are the B.T.H. Polar Inductor type, giving 4 sparks per revolution, and driven by bevel gearing directly off the tail end of the crankshaft at 1⅛ engine speed.

The drive is through a laminated spring pack, engaging with a two-jaw coupling, giving quick detachability and a reasonably flexible drive.

An auxiliary coupling through fine radial serrations is incorporated in the driven element of the main coupling, and is of the Vernier type. This coupling allows a very fine adjustment of the spark setting to be obtained when the magneto is first timed.

In service the auxiliary coupling need not be disturbed, the two-jaw main coupling permitting the magneto being removed when necessary, and quickly replaced without disturbing the timing setting, a feature contributing to the ease of maintenance of these engines.

FAMOUS AIRCRAFT

USING A AND P COLD DRAWN WELDLESS STEEL TUBES



The Hawker "Horsley," with Rolls-Royce Condor III Engine, is the standard day bomber of the Royal Air Force, and achieved considerable success in the recent manœuvres A AND P Tubes are used

SINCE the early days of British Aircraft, A AND P have been in close touch with developments Howard Wright and Cody flew machines in 1908, in which A AND P Tubes were used, and Famous Aircraft have been built from them ever since

This wide experience of Tube Manipulation, coupled with high-grade material, accurate work and careful testing and inspection, has maintained the position of A AND P in the front rank of Tube Makers for Aircraft

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MAKERS & MANIPULATORS OF WELDLESS STEEL TUBING

ACCLES & POLLOCK, LIMITED — OLDBURY BIRMINGHAM

PROGRESS—STEP BY STEP.

Air Ministry "Report and Memorandum No. 1089. (Ae. 268)" reports progress, slow but still progress, in official dealings with Slot and Aileron Control. Thus we are gradually moving towards producing aeroplanes which are not necessarily death-traps in the hands of a clumsy, careless, or weary pilot. The preliminary note reads thus :—

SUMMARY.

The slot and aileron control has now been fitted to a number of aeroplanes for experimental purposes and has after modification proved satisfactory in each case. The present report describes an experiment on the standard Woodcock fitted with slot and aileron control by the makers after consultation with the R.A.E.

The lateral control in normal and in stalled flight has been tried with various values of the gearing between control column and aileron, and between aileron and auxiliary aerofoil.

With the final gearings selected it is considered that the Woodcock has been considerably improved both in normal and stalled flight. It is more manœuvrable and there is no unpleasantness in the feel. In stalled flight a wing can be lifted without the use of the rudder, though at the expense of some yaw.

The actual report, by Mr. H. L. Stevens, B.A., is as follows :

Introduction.—A standard Woodcock was fitted with slot and aileron control by the makers after consultation with R.A.E.

Range of Investigation.—The lateral control in normal and in stalled flight has been tried with various values of the gearing between control column and aileron, and between aileron and auxiliary aerofoil.

Conclusions.—With the final gearings selected it is considered that the Woodcock has been considerably improved both in normal and stalled flight. It is more manœuvrable and there is no unpleasantness in the feel. In stalled flight a wing can be lifted without the use of the rudder, though at the expense of some yaw.

Introduction.—This aeroplane was fitted with slot and aileron control by the makers, Messrs. The Hawker Aeroplane Company, after consultation with the R.A.E. It was flown to the R.A.E. on 17/8/26 by the firm's pilot, Flight Lieut. P. W. S. Bulman, who reported that the lateral control was very heavy. On examination it appeared that the gearing of this control was unnecessarily high. It was therefore suggested that the gearing of the ailerons be considerably reduced and the relation between slot gap and aileron angle altered, so that with the reduced aileron angle the old maximum slot gap was still reached. After these alterations and tests by the firm, it was returned to the R.A.E. on 21/10/26.

Flight Tests: Carried out between 23/11/26 and 4/2/27.—As received the control was found to be very light. The aeroplane could be put into a turn very quickly, but was slow in coming out and not as effective as desired in stalled flight. The gearing between control column and aileron was then increased sixteen per cent., the relation between slot gap and aileron angle remaining unchanged. The control was then somewhat heavier, though still quite light, but not much more effective.

The relation between the slot gap and aileron angle was then altered so that fifty per cent. more slot opening was obtained for the same aileron angle. This increased the control in stalled flight considerably, but it was still capable of improvement. It was not possible to increase the slot opening and there were signs that any further increase would have produced an uneven feel at speeds of over 160 m.p.h.

Finally, a bent control column was fitted which enabled full movement of the ailerons to be obtained with the stick right back. The control is now as good as can be expected with ailerons of such a small chord. It is considerably more effective both in normal and stalled flight than on the standard Woodcock.

The aeroplane can be slow-rolled easily, which is difficult with the normal type. It appears to have no disadvantageous features in normal or high speed flight.

Some yawing tendency is still present. If the aeroplane be held stalled with the stick right back, and the rudder held fixed or left free, and a wing be then depressed, it yaws slightly away from the depressed wing. When this wing is lifted it yaws considerably towards the dropped wing, and it can only be returned to a level keel, after a 30° to 45° bank, at the expense of a turn of some 90°. The rudder is, however, quite adequate to deal with this.

Conclusions.—The Woodcock has been considerably improved, both in normal and stalled flight, by the fitting of the slot control. It is more manœuvrable and there is no unpleasantness in the feel. The undesirable yaw has not been entirely eliminated, possibly on account of the small chord ailerons, which in themselves might be expected to give a worse ratio of yawing moment to rolling moment, but it is easily controlled by the rudder.

Those interested in the progress of British aviation should note (A) that the Official method of operating the slot is about 12 months behind the Handley Page Co.'s latest method. (B) That the Woodcock is about 3 years behind the Hawker Co.'s latest designs. (C) That modern slot and aileron control has not yet been tried out on a modern aeroplane, (D) That the Handley Page people had nothing to do with fitting their patent control to another make of machine.

Nevertheless the report shows signs of the dawn of intelligence in Official Circles.—C. G. G.

A PRIZE FROM MR. J. D. SIDDELEY.

The offer of a Prize for an Annual Competition for the encouragement of private flying has been received by the Royal Aero Club from Mr. J. D. Siddeley.

THE FLYING CLUBS.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Sept. 17.

Flying Time 13 hr. 5 min. *Instruction* 3 hr. 55 min. *Soloists* 3 hr. 55 min. *Passengers* 4 hr. 50 min. *Tests* 25 min.

Instruction.—With Mr. Brown—Messrs. Riley Wilson, Brooking, Browning, Ruddy, Stonex, Tweedale, Sykes and Allott. *Soloists (under instruction).*—Messrs. Rowley, Anderson, Meads, Shiers and Miss Baerlein. *Pilots.*—Messrs. Fallon and Harber. *Passengers.—With Messrs. Brown, Cantrill, Scholes, Goodfellow, Williams, Costa and Michelson*—The Misses Smith Morgan, Elston, Plant and Parrott, Messrs. Tattersall, Mills, Gort, G. Guest, John Guest, James Guest, Rodman, Spruce, Preston, Dawson, F. Scholes, Moore and Ewan.

Notes.—LV had an adventurous time on Saturday afternoon. She started by standing on her nose in the middle of the drome, smashing the prop and bending the cowling, but was flying again an hour later. Determined to avoid the middle of the drome this time she came down heavily on a bad ridge close to the boundary. Two years ago she would probably have leaped skittishly forty feet into the air and thought nothing of it, but now, Alas, her knees gave under her and with a sad sweet smile she buried her nose firmly in the mud to the accompaniment of gentle cracking and scrunching sounds from her longerons and spars.

It was only last week that one spent from 21.00 hrs. to 01.20 hrs. trying to convince Capt. Lamplugh how really well behaved all our machines were. It's very 'aid. *"Ne mulieri credite."*

HOOTON PARK, SEPT. 24.—It looks as if at least 50 kites are going to be present. Fortunately there is plenty of space and accommodation. The R.A.F. is putting up an hour's programme with Gamecocks, Horsleys, Bristols, Snipes, Avros and twin-engined night bombers.

Owing to the number of entries for some of the events it will be necessary to fly off heats during the morning.

A dinner dance will be held at the Midland Adelphi, Liverpool, on Friday evening. Tickets (12s. 6d. each) may be had in advance by writing, *with a cheque,* to Mr. M. Anderson, 3, Lord Street, Liverpool. Those intending to stay at the Adelphi are advised to book their rooms in advance.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Sept. 18.

Flying Time 39 hr. 35 min. *Instruction* 21 hr. 10 min. *Soloists* 15 hr. 55 min. *Passengers* 2 hr. 30 min.

Instruction.—With Mr. F. G. M. Sparks—J. H. Veasey, A. J. Richardson, R. G. Whalley, H. R. Presland, Mrs. Russell, J. Nesbitt, F. Yates-Brown, J. W. Radbone, E. K. Broderick, W. L. M. O'Connor, R. P. Cooper, Miss Spooner, J. Bickley, G. Weston, F. C. Fisher, L. Rowson, Capt. Burt, E. A. Lingard, W. L. M. O'Connor, E. K. Blyth, Miss Fletcher, H. Solomon. *With Mr. S. L. F. St. Barbe*—J. H. Percy, L. Martin, E. N. Clarke, P. W. Hoare, P. H. R. Whitehead, F. Yates-Brown, J. W. Radbone, Miss Wilson, R. G. Whalley, R. P. S. Taylor, Capt. Burt, G. Black, Mrs. Russell, G. E. Clair, P. W. Hoare, F. C. Fisher, L. Rowson, M. Parkin. *Soloists.*—J. J. Hofer, N. H. Jones, G. C. Bonner, W. Hay, P. W. Hoare, J. H. Veasey, Miss O'Brien, B. B. Tucker, W. Roche-Kelly, R. P. Cooper, C. E. Murrell, A. F. Wallace, J. H. Saffery, K. V. Wright, Major Beaumont, A. G. D. Alderson, D. P. H. Esler, E. K. Blyth, L. C. Davey.

Passengers.—With Mr. F. G. M. Sparks—Mrs. Cartenay. *With Mr. S. L. F. St. Barbe*—Mrs. Hofer. *With Mr. R. Malcolm*—C. D. Elliott. *With Mr. O. J. Tapper*—J. J. Hofer. *With Mr. W. Hay*—A. Fowler.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Sept. 17.

Flying Time 18 hr. 45 min. *Instruction* 6 hr. 25 min. *Soloists* 8 hr. 45 min. *Passengers* 3 hr. 35 min. *Instruction.—With Mr. Beck*—Messrs. Crowther, Humphries, Hirst, Yeomans, Swift, Tattersal, Priestley, Ambler, Dujardin, Mason, Batcock, Miss Watson. *Soloists under Instruction.*—Mr. R. K. Lax. *"A" Pilots.*—Miss Woodhead, Capt. Milburn, Messrs. Thompson, Brackenbury, Fielden, Wilson, Norway, Atcherley. *Passengers.—With Mr. Beck*—Miss Crawford, Miss M. Crawford, Messrs. Nash and Stevenson.

On Monday Mrs. Eliott-Lynn landed with her "Avian," and owing to "dud" weather stayed till Wednesday.

This week has seen the arrival of our second Bluebird, at a most opportune moment, because we have had to lay up our Moth for top overhaul.

The Pageant arrangements are in full swing, and we hope to see a big crowd at Sherburn on Oct. 1 and 2

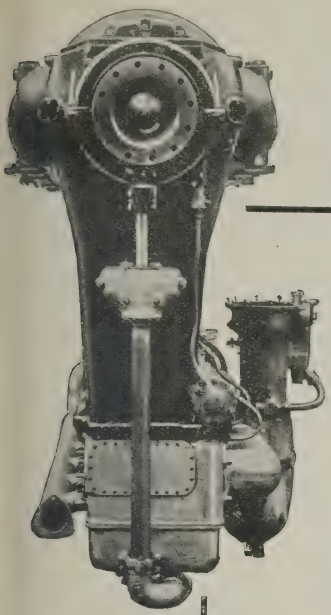
The Yorkshire Pageant.

The following is a condensed version of the highly educative and amusing programme of events to take place at Sherburn on October 1. Given decent weather it should be a good show and should do much to make Yorkshire airminded :—

Event 1.—The Fly Past: The machines will fly past the Enclosures, and as each machine dives down towards the aerodrome its description will be announced on the loud-speakers. Throughout the programme every effort will be made to bring the machines as close to the public as possible, consistent with safety. For purposes of identification spectators are advised to look for the last two letters on each machine. Do not bother about the preceding letters—e.g., G-EBRF is referred to as : "R.F." only.

Event 2.—The President's Light Aeroplane Handicap: For machines with engines of not more than 5,000 cc. capacity, or about 30 horse-power as the R.A.C. rating. These machines fly about twenty miles to the gallon of petrol at a cruising speed of about eighty miles an hour. Well known engines which fall into this class are the four-cylinder air-cooled "Cirrus" and the five-cylinder air-cooled radial "Genet."

The race is open to all comers. It is not considered safe to race more than five machines together on account of the tendency to crowd at the turning points in a hard-fought race. There will there-



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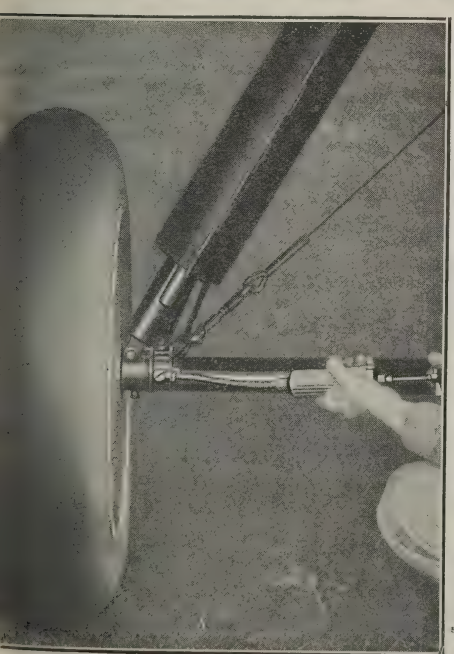
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fore be heats for this race in the morning at 10 o'clock, and the winners of these heats will fly in the afternoon.

First Prize £50 and Prize presented by Col. Sir Edward Allen Brotherton, Bart., D.L., LL.D. Second Prize £25 presented by W. L. Oldroyd, Esq. Third Prize £10 presented by Capt. Milburn.

Event 3.—Crazy Flying: In 1921 Flt. Lt. Noakes gave the first public demonstration of how an aeroplane should *not* be flown, at the Royal Air Force Pageant of that year. Since then Crazy Flying has been the evening relaxation of the most skilful pilots of the R.A.F. The best description of the performance is to say that it is probably how a pupil in the early stages of his training would fly the machine if his instructor went to sleep. Spectators, however, will probably agree that the instructor would not sleep for long in a machine that was "Crazy Flying."

Event 4.—Wing Walking: Experience has shown that the most brilliant displays of stunting, the most technically perfect exhibition of flying, are apt to leave the non-technical spectators cold, a little bored, and looking for a piece of chocolate. The sight of a couple of men walking out along the wings, however, seems to stir the most sluggish heart to apprehension. So here they are! They're quite safe really because they have the struts and the wires between the wings to hold on to, but probably they would not refuse a drink on their descent, if it were put to them nicely.

Event 5.—Private Owners' Handicap: There are more Private Owners of Aeroplanes in England than most people imagine, who go on their way unhonoured and unsung in the Daily Press, using their machines to snatch a week-end in Scotland from their business in London or to spend the statutory Easter Holiday upon the Riviera. Their machines cost them about sixpence per mile to fly, including insurance and depreciation.

The conditions for this race are identical with those for Event 2, with the exception that the engine size is not limited. First Prize £30 and Cup. Second Prize £15. Third Prize £10.

Event 6.—Parachute Descent: The Parachute has saved more lives in the Royal Air Force of recent years than any other safety device. All Officers and Airmen are now trained in its use. The demonstration to be given here will show exactly how a "drop" is carried out, and the distance that the parachute takes to open.

Event 7.—High Power Handicap: This race is open to machines of unlimited power, entered by firms or by private individuals. First Prize £50 and Cup. Second Prize £25. Third Prize £10.

Event 8.—Balloon Jumping: The serious business of the High Power Handicap being over we can turn with a light heart to the remainder of the programme—not that we would ever treat a Ladies' Race with flippancy. The principle of Balloon Jumping is that a small balloon, filled with hydrogen, is fastened to a man's shoulders with a special harness. In this way his weight is reduced to about 4 pounds and he can jump great heights and distances.

Event 9.—Ladies' Handicap: This race is open to *bona-fide* Lady Pilots only, and not to impecunious R.A.F. Officers cunningly disguised in feminine attire, as happened at a recent meeting. Machines of any power may be used, the handicapping and the course being as for Event 2. First Prize Ladies' Travelling Case, value £50. Second Prize £15. Third Prize £10.

Event 10.—The Wattle Handicap: A burlesque race open to all comers. The nature of this race will be kept a secret till the last moment.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Sept. 18.

Flying Time 28 hr. 25 min. *Instruction* 11 hr. 5 min. *Soloists* 5 hr. 55 min. *"A" Pilots* 9 hr. 50 min. *Passengers* 45 min. *Tests* 50 mins. *Instruction.—With Mr. Parkinson*—Sir Joseph Reed, Dr. Alderson, Messrs. Glenny, Hayton, Griffiths, Brown, Horn, Robertson, Dickinson, De Pledge, R. N. Thompson and A. Bell. *Soloists (under instruction).*—Messrs. L. Middleton, J. Middleton, McDougall, Sadler, Robertson, Wardill. *"A" Pilots.*—Miss Leathart, Messrs. R. N. Thompson, C. Thompson, Turnbull, Wilson, Mathews. *Passengers.—With Mr. Baxter Ellis*—Mr. G. Ellis. *With Mr. H. Ellis*—Mr. L. F. Young. *With Mr. Parkinson*—Mr. Pritcher.

Mr. A. J. Rasmussen did the tests for his Licence in excellent style on Monday.

Mr. A. H. Sadler, who is 16 years old, did his first solo on Wednesday, putting up a very good performance. Mr. J. P. De Pledge was launched on Friday finishing up a very steady flight with an excellent landing.

The Flying Meeting arranged for the 24th has been cancelled and although the Club cannot support the Lancashire Club with machines, it has not proved a hindrance in any way. LX was damaged when it came into contact with a hedge on Saturday evening, exactly seven days after coming back to service after repairs and overhaul for C. of A.

The Aerodrome will be closed down for Staff Holidays from Oct. 3 to 17 inclusive. The Club-house will be closed during this period also.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Sept. 17.

Flying Time 11 hr. 35 min. *Instruction.—With Mr. McDonough*—O. L. Richards, J. E. Brewin, E. P. Lane, R. Cazalet, C. Fellowes, Lattey, C. H. Dawson. *Passengers.—With Mr. Willis and Mr. Brighton*—Messrs. Goodwin, Baldwin, Darlington, Moore, Barker, Gundle.

Two days only were fit for flying, otherwise high winds and heavy rain. Mr. R. L. Brinton did a satisfactory first solo flight.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Sept. 18.

Flying time 20 hr. 40 min. *Instruction* 13 hr. 25 min. *Soloists* 4 hr. 50 min. *Passengers* 50 min. *Tests* 1 hr. 35 min. *Instruction.—With Mr. Thomson*—Mrs. Aitken Dick 1 hr. 25 min., Sir F. Carmichael Anstruther, Bart., 30 min., Hon. H. R. Grosvenor 25 min., Lt.-Commander Woodhouse, R.N., 15 min., Lt. Hall Thomson, R.N., 45 min., Lt. Lambe, R.N., 20 min., Lt. Mandeville, R.N., 50 min., Messrs. Duggan 2 hr. 10 min., A. R. Mellor 15 min., Whittle 10 min., Molony 10 min., Baynes 10 min., Stanford 1 hr. 25 min., Dickson 45 min., Crook 50 min., Blake 25 min., Hancock 1 hr. 15 min., Puttock 30 min., Boileau 25 min., and Captain Molyneux, M.C., 25 min. *Soloists.*—Don Juan de la Cierva 10 min., Hon. H. R. Grosvenor 15 min., Flg. Off. Southey 55 min., Messrs. Mellor 40 min., Bowen 45 min., Sanders Clark 25 min., Wells 15 min., Nicholson 10 min., Fagan 35 min., Rumble 10 min., E. A. L. Parker 15 min., Lt. Graham, R.N., 10 min., and Stanford 5 min. *Passengers.—With Mr. Thomson*—Mr. Aitken Dick, Master Waite, and Mr. Thring. *With Mr. K. P. L. Bowen*—Mr. Brady, Mr. Boxhall. *With Flg. Off. Southey*—Mrs. Graham and Mrs. Crook.

On Sunday, Mr. Stanford (Assistant to Mc. Cracken, our ground engineer) made an excellent first solo after six hours' dual.

The Suffolk Aeroplane Club.

[Sec.: Courtney Prentice, "Hazeldell," Stowmarket.]

Report for week ending Sept. 18.

Flying time 7 hr. 15 min. *Instruction.—With Mr. Carnegie*—Miss Dorothy Creasy, G. Hutley, Dr. Jas. Sleigh, N. Creasy, H. Billington. *Passengers.*—Miss Carol Rygate. *Soloist.*—Courtney Prentice.

This has been an unfortunate week. Monday, Tuesday and Wednesday torrential rains practically flooded the aerodrome. At last the weather cleared and members arrived in full force but after only a few hours' flying there were murmurs and gnashing of teeth as the Bluebird returned to her hangar minus tail skid and king post.

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Sept. 17.

Flying Time 16 hr. 45 min. *Instruction* 13 hr. 20 min. *Soloists* 2 hr. 10 min. *Passengers* 1 hr. 15 min. *Instruction.—With Mr. Bartlett*—Miss Miles, Miss H. Pitman, Messrs. D. H. Amory, Hon. H. C. H. Bathurst, A. H. Downes-Shaw, R. S. Clarke, A. E. G. Hawkins, R. A. Hall, R. H. C. Peters, J. E. Tratman, N. H. Warren, G. L. R. Welch, J. H. Roberts. *Soloists (under instruction).*—A. H. Downes-Shaw, R. A. Hall, J. E. Tratman. *Passengers.—With Capt. Barnwell*—Master R. A. Barnwell and Master Barnwell. *Pilot.*—Capt. Barnwell.

Last week saw our first soloist launched under instruction, this week we have three, our chairman, Mr. A. H. Downes-Shaw, and Mr. Tratman having made their first solo flights.

On Monday Miss Miles piloted by Mr. Bartlett visited the Patron of our Club, His Grace the Duke of Beaufort, and landed in the grounds at Badmintoa.

The Rt. Hon. Sir Samuel Hoare, Bart., C.M.G., M.P., has kindly consented to come down on Saturday, Oct. 8, and officially open the Club. As stated last week, we hope that all those interested in Aviation will visit us on this occasion.

A Tees-Side Aero Club.

[The following note is taken from a cutting, sent by a correspondent, from a Yorkshire paper to which it would be duly acknowledged if one knew its name.—C. G. G.]

The initial step has been taken at Stockton in the direction of forming a Light Aero Club to serve the whole of the North Yorkshire and South Durham district on similar lines to that which has so successfully been established at Newcastle. The underlying motive is to organise those persons interested in flying, and for the more material purpose of providing and maintaining aeroplanes for the use of members of the club.

The rapid strides made in aviation during recent years must have resulted in a large number of people becoming interested in the science, and the natural sequel seems to be that they should be organised. If there are sufficient persons inclined in this direction the project will, of course, be popular and successful.

In order to settle this issue two local gentlemen who are keenly anxious to see such an organisation formed have made a move towards discovering the strength of Tees-side's interest, and the Newcastle Club have promised them any assistance they can afford. All those who would care to hear more of the scheme should get in touch with either Mr. W. Davison, of 7, Westcott Street, Stockton, or Mr. E. Pierce, of Connaught Road, Nunthorpe.

A Kenya Aero Club.

Former members of the Flying Services now living in Kenya has decided to form an Aero Club of Kenya. They propose to admit the general public to membership. No details are available.

THE FLIGHT TOWARDS THE CAPE.

Lieutenant Bentley of the South African Air Force who is attempting to fly from Stag Lane to Cape Town on a D.H. Moth (A.D.C. Cirrus II engine), left Heliopolis, Cairo, on Sept. 13 and arrived at Aswan on the same day.

On Sept. 15 he made a forced landing near Kosti, 200 miles from Khartum, owing to engine trouble. He continued his flight on Sept. 17 and landed at Malakal that night.

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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 27; Tuesday, 23; Wednesday, 23; Thursday, 27; Friday, 26; Saturday, 25; Sunday, 10

IMPERIAL AIRWAYS LTD. :
London—Paris—Zurich; London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin. Machines 61, passengers 526, freight 19 tons.

AIR UNION :
Paris—London : Machines 38, passengers 155, freight 12½ tons.

K.L.M. :
Amsterdam—Rotterdam—London : Machines 28, passengers 135, freight 3¾ tons.

SABENA :
Brussels—London : Machines 10, passengers 83

DEUTSCHE LUFTHANSA AG. :
Berlin—London : Machines 14, passengers 68

COMPAGNIE AERIENNE FRANCAISE :
Machines 2, passengers 2.

PRIVATE :
Machines 6, passengers 3.

Total number of trips by British Machines, 67, carrying 529 passengers. Foreign Machines, 94, carrying 446 passengers.

COMPARATIVE FIGURES.

Week ending Sept. 18 :
Machines, 161; Passengers, 972; Crews, 295; Total personnel, 1,267.
Corresponding week, 1926 :
Machines, 114; Passengers, 537; Crews, 145; Total personnel, 682.
Corresponding week, 1925 :
Machines, 122; Passengers, 572; Crews, 163; Total personnel, 735
Corresponding week, 1924 :
Machines, 146; Passengers, 601; Crews, 177; Total personnel, 778.
Corresponding week, 1923 :
Machines, 109; Passengers, 379; Crews, 172; Total personnel, 551.
Corresponding week, 1922 :
Machines, 98; Passengers, 337; Crews, 184; Total personnel, 501.
Corresponding week, 1921 :
Machines, 66; Passengers, 154; Crews, 84; Total personnel, 238.
Corresponding week, 1920 :
Machines, 100; Passengers, 261; Crews, 123; Total personnel, 384.

Croydon Notes.

As has already been mentioned in these notes, Imperial Airways have found that the fleet of modern aircraft now employed in their services have proved a marked advance on the earlier types of machines which they have now scrapped in regard to reliability, ease of maintenance and freedom from minor but annoying failures of equipment.

There is however one item of this equipment which has given if anything more trouble during this year than in any previous year of their operation. All Imperial Airways machines at present are fitted with wooden airscrews, and the persistent rain of this Summer has played havoc with wooden screws.

The trouble has been aggravated by the considerable number of high-powered ungeared engines now in use, for the airscrews for these engines necessarily run at fairly high top-speeds and are in consequence more easily damaged by rain or hail than are larger but slower-running screws.

Practically all the airscrews which give trouble are fabric sheathed and brass-tipped. It requires relatively little flying through rain to cause some water to penetrate through the fabric sheathing, and when this has happened complete stripping of the fabric very soon follows.

If the fabric strips simultaneously from both tips it is usually possible to continue to fly for a short time without serious trouble, but when once the fabric has gone the screws holding the brass tipping soon become loose, and a pilot dare not take the risk of a complete tip coming adrift.

Actually the average life of a wooden airscrew between overhauls—which means usually recovering, retipping and balancing—during this Summer has been two wet days. And the cost of airscrew maintenance has added up to a very serious sum.

The whole trouble can be overcome by the use of properly designed metal airscrews. The K.L.M. use nothing but Reed-type airscrews on their Jupiter-engined Fokkers, and they have experienced no trouble with these.

It is understood that Imperial Airways have been deterred from acquiring airscrews of a similar type by the relatively high prices asked for this type in this country, but as one set of Reed airscrews is on its way to Cairo for use on the Middle East service, and an order for Reed airscrews for Argosies is now said to be under negotiation, they have presumably decided that cheapness may be purchased too dearly.

The passion for Atlantic and other long-distance flying has affected a surprisingly large number of regular air-line pilots who it might be imagined would be the last people to wish to tackle such spectacular but unnecessarily dangerous stunts. Imperial Airways have lost, presumably for ever, the services of Col. Minchin, and at least temporarily those of Mr. MacIntosh and Mr. Hinchliffe, as a result of the recent outbreak. In addition they lost Capt. Barnard in an accident to a racing machine some months ago, and they have just lent Mr. Bailey to the Khartum—Kisumu line.

As a result they are at the moment quite noticeably short of pilots and those of their staff who have remained at their posts are reaping quite a considerable increased revenue in the form of flying pay, at some distinct discomfort to themselves.

MUTUAL HELP WANTED.

The wife of an R.A.F. officer now in India, who wishes to join her husband there is anxious to know whether any officer's wife who may be travelling to India will give her a 1st or 2nd class passage in exchange for assistance with children on the voyage. This lady is willing to pay all her own expenses other than passage money.

MORTGAGES AND CHARGES.

TRANSAERIAL, LTD.—Debenture dated Sept. 2, 1927, to secure £800, charged on the co.'s assets, present and future, including uncalled capital. Holders : H. W. Watts, 77, Tredegar Road, E.3, and E. Higgs, Newtown, Hatfield.

PERSONAL NOTICES.

DEATHS.

GASKELL.—On Sept. 15, at Hinaidi, 'Iraq, as the result of a flying accident, Wing Cdr. Arthur Bruce Gaskell, D.S.C.

KITTOW-ROBERTS.—On Sept. 15, at Hinaidi, 'Iraq, as the result of a flying accident, L-AC. William Ronald Kittow-Roberts, R.A.F.

FORTHCOMING MARRIAGES.

HARTLEY—HODGSON.—The marriage arranged between Major Clifford Hartley, late R.A.F., and Miss Nina Hodgson will take place at North Ferriby Church, East Yorks, on Sept. 21.

YOUNG—WHITE.—The engagement is announced between Charles Edgar Young, R.A.F. Reserve, Fettes College, Edinburgh, only surviving son of Professor Sydney Young, D.Sc., F.R.S., and of Mrs Young, 13, Clyde Road, Dublin, and Dorothy Vere White, daughter of the Bishop of Limerick and Mrs. White.

BIRTHS.

POOL.—On Sept. 14, at Pinner, to Inés (*née* Harker), wife of Bernard G. Pool, R.A.F.—a son.

SMITH.—On Sept. 13, 1927, at a nursing home, Alexandria, to Winifred, wife of Wing Cdr. Sidney Smith, D.S.O., A.F.C.—a son.

SORLEY.—On Sept. 12, at Sevenoaks, to Mary (*née* Gayford), wife of Flt. Lt. R. S. Sorley, D.S.C., D.F.C., R.A.F.—a daughter.

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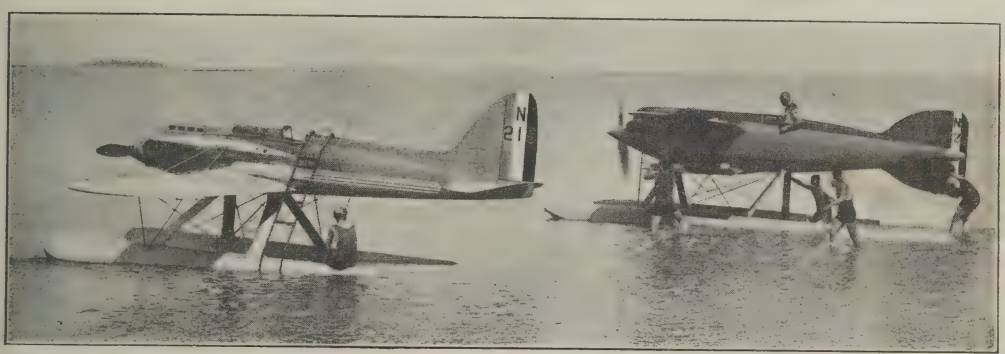
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Vol. XXXIII. No. 13 SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"THE AFFAIR CRIES HASTE AND SPEED MUST ANSWER IT."
(SHAKSPEARE—*Othello*)



BRITISH REPRESENTATIVES:—Two of the reserve competitors in the Schneider Trophy contest at Venice on Sept. 25. A Supermarine-Napier S.5 and a Gloster-Napier IV moored off the Lido during their preliminary trials.

Once again WON ON

King's Cup Race

K·L·G SPARKING PLUGS

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The Supreme Avian

Longest Light 'Plane Non-Stop Flight.

MR. Bert Hinkler, flying his 30/80 h.p. "Cirrus Avian" on Saturday, August 27th, 1927, accomplished a non-stop flight of 1,200 miles from Croydon to Riga, Latvia, in 10¾ hours. His average speed was over 100 m.p.h. and petrol consumption was 30 m.p.g.

Major F. A. de V. Robertson, the well-known Aviation Correspondent, writing of this flight, says:—

"AT a time when British long non-stop flights have not been favoured with the best of fortune it is not fitting that this record set up by Bert Hinkler should be hidden under a bushel.

Nothing to compare with this non-stop flight of 1,200 miles in a tiny aeroplane has ever been accomplished before. The only flights which can at all be classed with it are two previous exploits of Hinkler himself. In 1919 he purchased an Avro "Baby" single-seater with a ten-year-old "Green" engine of 35 h.p. In this he set off from Croydon on May 31st of that year and flew non-stop to Turin, 630 miles, in 9 hrs. 35 mins. On April 11th, 1921, Hinkler flew from Sidney to Bundaberg, a small station in Queensland. This was a non-stop flight of 800 miles in 9 hrs. and it held the record for many years."

Following the remarkable successes obtained by Mrs. Eliott Lynn, piloting her own "Avian," the above is further evidence of "Avian" supremacy.

A. V. ROE & CO., LTD., MANCHESTER.

London Office and Export Dept.: 166, Piccadilly, W.1 Experimental Works: Hamble, Southampton.

SEPT. 28, 1927.

THE AEROPLANE

Incorporating
Aeronautical Engineering

VOL. XXXIII. No. 13.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.

Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8s. U.S.A., 1 Year, $8.50c.

ON WHAT THE MARKET WANTS.

By the time this issue of THE AEROPLANE appears the Schneider Trophy will have been won or lost by a British aeroplane—unless unusually bad weather causes the postponement of the race. If it has taken place a brief account of the result will be found elsewhere in this paper. A full account of all the happenings connected with the event will be published next week, as there is not enough time between the competition on Sunday last and the going to Press of THE AEROPLANE on this Tuesday to get a written account with photographs into this week's paper.

Whether we have won or not now is the time for the British Aircraft Industry and everybody concerned for the welfare of British Aviation to take thought about our commercial air policy for the near future. If we have won the Schneider Trophy so much the better for the reputation of British aircraft. And if we have lost it so much the more reason for an active policy in pushing British aircraft all over the World.

If we do not start doing our pushing now we are going to be left in the race for the World's trade in aircraft, just as we got left over the World's automobile business fifteen or twenty years ago and just as we got left over the World's cycle trade ten or fifteen years before that. In certain classes of aircraft this country is well ahead of any other country in the World. But we have to consider whether they are what the Market wants.

OUR FLYING-BOATS.

Nobody can touch us in big flying-boats. To the Supermarine Southampton belongs the credit of having taken the last big step forward in the design of large aircraft. That step has resulted in our having a flying-boat which gets off the water with a shorter run than any land machine of similar engine-power, and gets off with a bigger load, and flies faster.

It is true that the flying-boat was originally an American invention. The first of them was produced by our old friend Glenn Curtiss in the United States. And the first *big* flying-boat was a triple-engined affair built by the Curtiss Company at Hammondsport with the assistance of the late Commander John Porte, R.N., and the very sound advice of Commander John Towers, U.S.N.,—both of these officers being then Lieutenants.

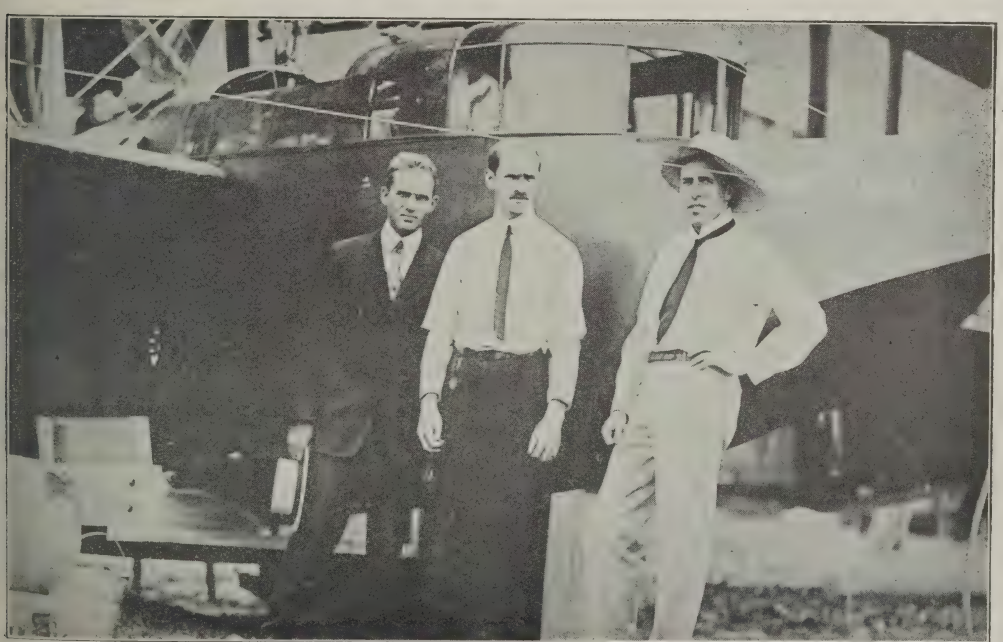
The machine was built by Mr. Curtiss to the order of John Wanamaker, the owner of what was at the time the biggest department store in New York, and was intended to fly the Atlantic for the glory of American aviation and the advertisement of the Wanamaker business.

That was the first scheme to fly the Atlantic, and it shows that the Atlantic aspirants of that day had a good deal more sense than many of the new generation. The final development of the boat was stopped by the outbreak of war when John Porte, who had been invalided out of the Navy years before, threw up his excellent job in the States and gave his services, and ultimately his life, for a singularly ungrateful country.

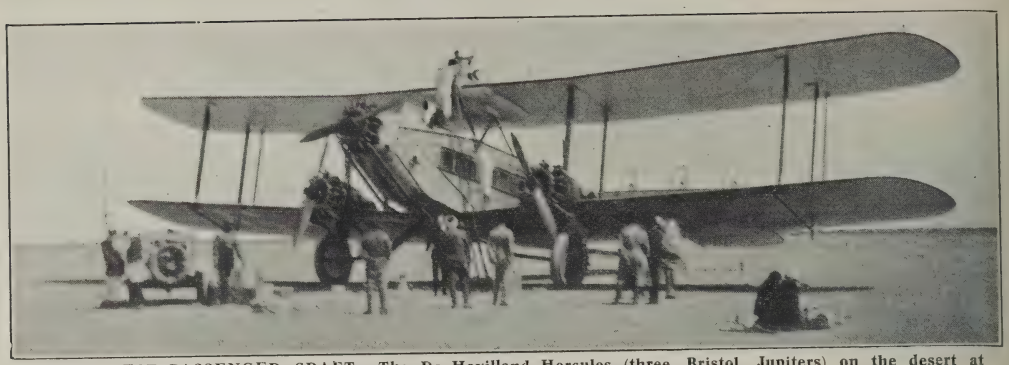
From that boat directly developed all the "F" boats built by John Porte at Felixstowe. And in fact one type of our earlier flying-boats was actually known as the "America."

By a curious coincidence, which must have been a kind of telepathy, Sq. Ldr. W. R. Kenny, of the Royal Canadian Air Force, offered to lend THE AEROPLANE the photograph of the original "America" and her creators which appears on this page. It is of unusual historical interest at this particular moment, one thanks Sq. Ldr. Kenny for his kindly thought.

The Southampton remains to-day the most efficient flying-



THE FIRST TRANS-ATLANTIC ASPIRANTS.—Left to right, Lieut. John Towers, U.S.N., Mr. Glenn Curtiss, and Lieut. John Porte, R.N. Behind them is the Curtiss "America,"—the first triple-engined flying-boat,—from which all our big boats are descended.



THE LATEST PASSENGER CRAFT.—The De Havilland Hercules (three Bristol Jupiters) on the desert at Khoms, North Africa, filling up with Shell Spirit.

boat which is standard equipment in any Flying Service in the World. But we are already producing in the higher-powered Blackburn Iris, the Short Singapore and Calcutta, the Saunders Valkyrie and the Supermarine Solent, some with water-cooled engines and some with air-cooled, bigger boats which the makers hope will surpass even the Southampton in efficiency.

This is very right and proper for a maritime Commonwealth of Nations such as the British Empire. In time to come our big flying-boats will rule the sea, protect our surface-borne trade and work long sections of our Imperial airways. But the time has not yet come when the selling of winged ships in quantities to other nations is a commercial proposition. So we cannot regard the flying-boat market as one out of which the Aircraft Industry is going to make a fortune in the near future; though quite a paying business may be done in this line for home consumption.

Our Two-Seaters.

In certain classes of land-going war machines we are also ahead of the World. In the two-seater class there is nothing to touch the de Havilland Hound and the Fairey IIIF for sheer performance. But selling war machines is a chancey job.

Just at the present moment the nations of the World do happen to be buying greater numbers of war machines, taking them all round, than civil machines. But the bulk of that business is being done by France, largely because the French Government finances small foreign nations, with money which is owing to us, on condition that the said nations buy all their war material from France. Naturally we cannot compete under such conditions, so the French aircraft Industry flourishes on English and American money.

Here and there, as in the case of Chile buying Fairey and Vickers fighting machines, or the Greeks building their own machines under the supervision of the Blackburn Company, we do get in with foreign nations. But even then we cannot offer them our most up-to-date machines, because any firm that attempted to do so would promptly be stopped by the Government from exporting them.

Thus the Aircraft Industry cannot play the good old game which our ship-building firms used to play, of building for a foreign country a better warship than they built for the British Navy under Admiralty supervision, or at any rate better than the British Navy built in its own dockyards, and so forcing the Admiralty's hand and compelling the British Government to buy their newer types.

Our Big Passenger Machines.

Yet another type of aircraft in which we excel is the big multiple-engined passenger machines. But here we have not got things quite as much our own way as we have in the flying-boats.

The de Havilland 66 (known as the Hercules) and the Armstrong Argosy, are in a class by themselves, with the Hercules a good deal the faster of the two and the Argosy carrying the bigger load. But the big Junkers is doing very good work on the German air lines and the triple-engined Fokkers and Ford-Stout all-metal monoplanes are putting up very good performances.

These big passenger machines are also going to have a very considerable market some day soon. But they are not yet so much in demand as to be a money-making proposition.

Where We Hold The Market.

The one type of machine of which we have practically a monopoly in this country, and one out of which the Trade can hope to make big money abroad is the light aeroplane. To the De Havilland Company belongs full credit not only for having developed this particular type of aeroplane at home but for having gone out after the business overseas.



A TRANS-ATLANTIC REMINISCENCE.—The Crew of the U.S. Navy's Flying-Boat which first crossed the Atlantic by air, on the Terrace of the House of Commons. H.R.H. the Prince of Wales is seen in the middle of the picture, with the late Lt.-Cdr. Read, the commander of the boat, on his left, and Cdr. Towers on his right. Admiral Wemyss is behind Lt.-Cdr. Read, with General Seely, Lord Birkenhead, and Mr. Churchill on the right. Lord Reading is next to Cdr. Towers.

World's fastest air race won with Napier engine!

On Sept. 26th, 1927, Great Britain at Venice won the Schneider Trophy for seaplanes with a **Supermarine - Napier** machine fitted with Napier engine and piloted by **Flt.-Lt. S. N. Webster, A.F.C.**

Three machines represented Great Britain—all with Napier engines. Two of these finished 1st and 2nd.

The leading machine maintained an average speed of **287.87 m.p.h.** over the course, giving further proof of the remarkable power, efficiency and reliability of the

NAPIER

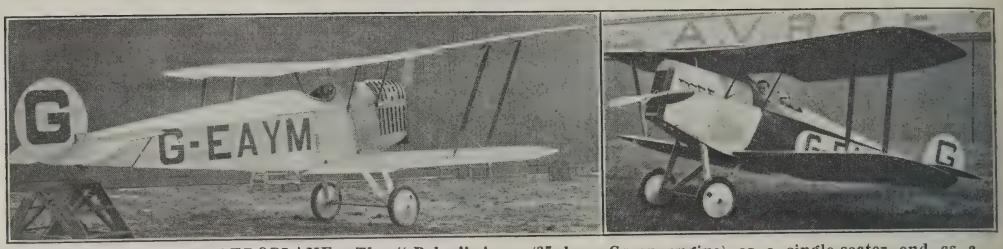
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All the successful long-distance R.A.F. flights have been accomplished with Napier engines.



THE FIRST LIGHT AEROPLANE.—The "Baby" Avro (35 h.p. Green engine) as a single-seater and as a two-seater. Both types were flown with notable success by Mr. Hinkler.

De Havilland Moths are already in use in something like quantities in Australia, in Canada and in South Africa. And Moths have even been sold in Germany, in Switzerland and in the United States. Altogether the De Havilland Company must have sold getting on towards 200 Moths since they introduced the type three years ago.

This is really very satisfactory business considering the high price at which the first Cirrus engine had to be sold to the aeroplane manufacturer and at which the aeroplane itself had to be sold to come anywhere near paying for its first production.

The De Havilland Company have adopted a very wise policy, for as their increasing output has gradually paid off the high cost of first production they have steadily decreased the price of the machine. The result is that now we are at any rate within sight of the £500 aeroplane. That is the price which one lays down categorically as being the top price for a light aeroplane for the owner-pilot if such aeroplanes are ever going to be sold in quantities.

The Avro Company, who were in fact the pioneers of the light aeroplane as we now understand it, as distinct from the competition freaks with unreliable motor-cycle engines which were produced by the prizes offered by newspapers some five years ago, have now produced the Avian, a competitor to the Moth which is so level with it in performance and just so different from it in minor talking points as to provide precisely that competition which is good for trade.

The original Baby Avro of 1919 was just about four years in front of its time. It put up a wonderful performance, as was proved by Mr. Bert Hinkler's 650 mile non-stop flight to Turin and his 800 mile non-stop flight from Sydney to Bundaberg, flights which compare very well with his recent 1,200 mile non-stop flight on the Avian from London to Riga. Unfortunately the Baby Avro was produced just at the bottom of the worst financial slump this country has seen for 100 years, whereas our modern light aeroplanes are being produced just at the beginning of what is going to be an enormous trade boom. Also the little 35 h.p. Green engine, good as it was, suffered in the first place from being water-cooled instead of air-cooled, thus adding cost and complication to the machine, and, owing to its short crankshaft, it was impossible to get a really good streamline nose on the machine such as is necessary in these days.

We also have, in the Blackburn Bluebird, a side-by-side two-seater which has a very fine performance. And many people will prefer the side-by-side seating to the tandem position.

Furthermore we have the Westland Widgeon for those who prefer the monoplane type, and want higher speeds. And undoubtedly the monoplane is acquiring a following, thanks largely to the successes of the various American commercial monoplanes. The Widgeon happens to be more expensive than the other machines but it is a beautifully made job and very good value for the money as prices go at present.

Light Aeroplane Prices.

Eventually, one is certain the price of light aeroplanes will range between £300 and £500.

The lower price will be reached without much trouble when somebody produces, as somebody will some day, the engine which gives 100 h.p., weighs 100 lbs. and costs £100. Those who know quite a good deal about the manufacture of engines say that there should be no difficulty even to-day in producing an engine to give between 80 and 100 h.p., weighing perhaps 200 lbs., for £150, even without mass production. And if we had that engine we should have the £500 aeroplane at once.

Also, when somebody discovers how to build wings in one piece, on the lobster-claw principle instead of having an expensive skeleton inside, and when we have advanced further in the art of making one part in the machine do the work of three,—according to Mr. Bill Stout's motto "Simplicate and add more lightness"—we shall get down to the £350—£400 light aeroplane.

Meantime the people who pay between £600 and £700 for their light aeroplanes are getting very good value for them. Those who can afford such prices will have quite a lot of fun for the extra £250 or so which they spend now instead of waiting another two or three years for the price to come down. It is worth while to pay £250 for the sake of being able to fly happily for three years instead of having to wait, as poorer people have to do, till the prices come down.

With each step downwards in price a new financial layer or stratum, of buyers will be tapped and so the market will increase—just exactly as it did as the price of cars decreased steadily from £1,000 to £100. And with each increase in the number of buyers the cost of production will decrease and the price will come a step lower. That is what happens in every line of business.

The thing which the British manufacturer of light aeroplanes will have to watch most carefully is that the Americans do not turn out a design for a light aeroplane which can be made a mass-production job. We shall have to keep one eye very wide awake on this particular line of development, for if we do not we may find ourselves up against an aerial Ford flivver.

Where We Get Left.

Now although we in this country are ahead on all these different classes of aircraft, one of which is already a money making proposition, there is one class of aeroplane in which



THE LURE OF THE EAST.—Mr. Stack (left) and Mr. Leete, at Heliopolis, with one of their Moths (Cirrus engine) on which they flew from England to India.



FIRST . . . . . .
. . . . . AGAIN

THE victory of the NAPIER engined SUPERMARINE S.5 Seaplane, fitted with a FAIREY METAL AIRSCREW (license Reed) in this year's race for the Schneider Trophy, makes the fourth time in succession that the trophy has been won by a machine equipped with this type of airscrew.

The King's Cup, the R.A.F. Cape Flight, Hinkler's long-distance Riga flight are a few of this year's achievements by aircraft fitted with FAIREY METAL AIRSCREWS (license Reed).

Sole Manufacturers, and Licensees of the Reed Patent Airscrew for the British Empire:

The Fairey Aviation Co., Ltd.,
Hayes, Middlesex.





REJUVENATION.—A hybrid consisting of a Curtiss JN. fuselage (Wright E-4, 180 h.p.) and a special high-lift parasol wing designed by the Sikorsky Mafg. Corp. The speed is 128 m.p.hr. and the price is about £350.

we have absolutely been left standing by the United States. That is the medium power commercial passenger carrier, of which the Bellanca, the Ryan, the Stinson Detroiter and the Fokker Universal, all monoplanes with 200 h.p. Wright Whirlwind engines, are typical.

We have nothing at all in this country in that class. And that happens to be the class for which there is an immediate market all over the world.

The only thing we have got in the same class at all is the good old D.H.50, which one still holds is the nicest aeroplane in the air. It is fast, delightful to handle from the pilot's point of view, and though it is lively in gusty weather it is only the liveliness of a fast car on a bumpy road. It does not wallow, and on the other hand it does not hammer its way through gusts.

But the D.H.50 is now quite an old design, and, though the Siddeley Puma is one of the best engines the World has seen in the past, it also is becoming a bit ancient, according to modern ideas of air-cooled engines. And, being water-cooled, it has all the usual disadvantages of radiators and shutters and water-pipe lines, and difficulties in keeping the temperature even in extreme variations of climate.

The Nimbus, which A.D.C. Aircraft Ltd. and Major Halford have developed from the Puma, is a splendid engine, but it is too powerful and costs too much for this job.

Consequently owing to the weight of its power plant as a whole, the D.H.50 cannot have the capacity for useful load either in the form of passengers or petrol or goods which a more modern machine with an air-cooled engine would have.

Personally one is not convinced yet that a monoplane has any real advantage over a biplane. One big cantilever wing is probably heavier than the two braced wings of a biplane. One would very much like to see a D.H.50 built with a Wright Whirlwind engine and with steel-tube bracing to the wings, something like Mr. Kenworthy's original Austin Whippet. With control wires stuck inside and a bit of cleaning up, to bring it in line with Tiger-Moth practice, or even that of the better American monoplanes, one has a notion that a revised D.H.50 would not be very far behind them in performance.

But meanwhile we have nothing to compete with the best American commercial monoplanes either on performance or price. And worst of all we have not got a 200 h.p. air-cooled engine to compete with the Wright Whirlwind, either for price, weight, reliability or economy.

In fact we have not got a 200 h.p. air-cooled engine at all. The nearest thing to it is the Siddeley Lynx with 180 h.p. which is a very good engine, but it just lacks that extra



AN AMERICAN TWIN.—The light aeroplane with twin Bristol Cherubs driving propeller-screws built by Mr. Al. Johnson, of Dayton, O., and sold at quite a reasonable price.

MOTH
CIRRUS ENGINE

LIVERPOOL
CIVIC WEEK
AIR PAGEANT
Saturday, Sept. 24th, 1927.

LANDING COMPETITION
demonstrating one of the *ss ntial* requirements of the private owner and the flying club.

1st MOTH — LONDON AEROPLANE CLUB. Mr. Will Hay.
2nd MOTH — LANCASHIRE AERO CLUB. Mr. J. F. da Costa.

HOOTON PARK HANDICAP.
1st MOTH — LONDON AEROPLANE CLUB. Capt. F. G. M. Sparks.
2nd MOTH — MIDLAND AERO CLUB. Capt. W. J. McDonough.
3rd MOTH — Capt. W. L. Hope.

INTER CLUB MEMBERS' RACE.
2nd MOTH — NOTTINGHAM AERO CLUB. Mr. B. Martin.
The first Cirrus-engined machine to cross the line.

LOW POWER HANDICAP.
1st MOTH — Capt. W. L. Hope.

LADIES' CUP AND PURSE.
2nd MOTH — LONDON AEROPLANE CLUB. Miss S. O'Brien.
The first light aeroplane to cross the line.

OPEN HANDICAP.
3rd MOTH — Hon. Lady Bailey.
The first Cirrus-engined machine to cross the line.

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THE DE HAVILLAND AIRCRAFT CO., LIMITED,
Stag Lane Aerodrome, Edgware.
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THEORY AND PRACTICE.—The Avro Avian (Cirrus) bought by the R.A.E. Aero Club out of its prize money of last year. This machine was bought by the Club on the advice of its scientific members almost entirely on the strength which the stress-calculations in connection with its Airworthiness Certificate showed it to have. The members of the Club never even saw the machine before buying it, but took it purely on its figures. And obviously they have made a very good choice.

20 h.p. which makes all the difference. And one believes that it costs a good deal more than the Whirlwind.

A Specification for a Saleable Aeroplane.

For the benefit of British aircraft designers who may be thinking of starting out to supply this World-wide demand, here is broadly the specification of the machine which is wanted.

Engine:—200 h.p. air-cooled (radial, in-line or inverted Vee).

Useful Load:—Pilot, four passengers and light luggage, or alternatively pilot, two passengers and heavy luggage.

Performance:—Top speed, 130 m.p.h. (nothing less is any use, for the machine must be able to butt into a 40 m.p.h. wind and still maintain at least 90 m.p.h. over the ground. If it cannot do this it is reduced to the level of ground transport).

Cruising speed, 100 m.p.h. (anything less is not worth while, even in fine weather).

Landing speed not to exceed 45 m.p.h. (without air-brakes, slots or other special aids).

Fuel and Oil:—Fuel capacity, 4 hours with full passenger-load.

Oil consumption not to exceed one pint per hour at cruising speed. (Remember that Lindbergh did the whole journey from New York to Paris on less than 4 gallons of oil, and all the other big flights with Whirlwinds have been done on just about that oil consumption. If a British engine cannot get down to that consumption then we must have American engines.)

Desirable additions:—Slot and aileron control to assure the possibility of stalling safely into a limited landing ground. (This control will be compulsory on all aeroplanes within the next three to five years, but in the meantime it is possible to get along without it.)

Wheel brakes, and preferably a steerable tail wheel instead of skid,—the tail-wheel or skid to control the brakes, according to Mr. Hinkler's invention.

Folding wings. (A nice thing to have, but not as necessary as might be thought.)

Stall indicator. (Not essential if the slot control is automatic. And not desirable if the owner of the machine happens to be a fool, for then there is no reason for wanting to save his life.)

Our Last Chance.

There now. That is a perfectly simple ordinary specification which could be fulfilled by any aircraft designer today who is worth £10 a week wages.

It is a specification of a machine which would sell in practically any part of the World to-day at anything between £2,000 and £3,000. Nobody in this country is making it and if we do not make it the Americans are going to have the market.

As we have no 200 h.p. engine here, the obvious thing to do seems to be to buy some Whirlwinds and put them through our Engine Type-Test at 180 h.p.,—they would all pass the test at that power,—after which we can build our aeroplanes round them.

The fuselages can be "plumbers' jobs" of welded steel tubing, like all the American machines. The experts of the Air Ministry are rather in favour of welded tubing in these days. And anyhow, if they are not, the buyers will probably take the machines on the reputation of the manufacturer,—in which case the flying tests could be done in the Irish Free State, where the mere fact of being again the Government would assure popularity

Already one has had inquiries from Australia and from South Africa for just such a machine. And one is told that it is what is wanted in Argentina and in certain parts of Brazil. Also it is obviously the type which will be most useful in India.

Compared with our light aeroplanes it is what a Chrysler or an Essex saloon is to a Morris.—Note that one has to go to America for a simile in cars because we have no British car with Chrysler capacity and performance at Chrysler price, just as we have no aeroplane with the capacity and performance of a Bellanca, Ryan or Stinson at any price.

Now who is going to be the first British manufacturer to get out of that rut and produce such a machine? There will be big money in it within the next two years. And the producer, if he "works the press" skilfully, will get thousands of pounds' worth of free advertising, simply because his will be the first British machine of its type.

If we leave the type alone the American Trade will capture the World's Markets,—and the only satisfaction one will have will be that, to which one is becoming regretfully too well accustomed, of saying "I told you so."—C. G. G.

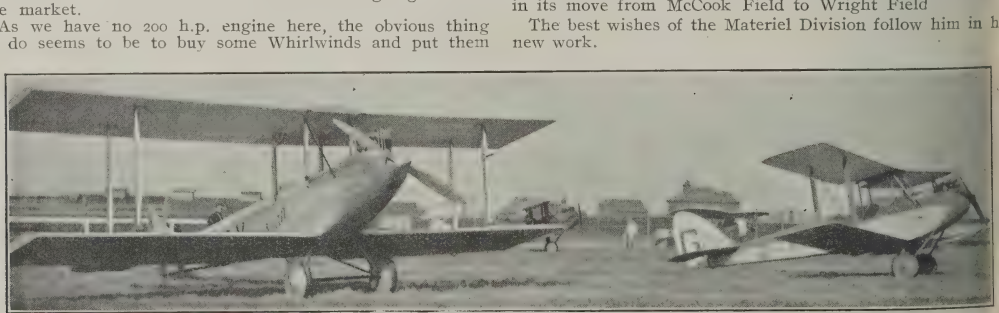
DAYTON'S LOSS.

Major John F. Curry, Air Corps, Acting Executive of the Materiel Division, Wright Field, Dayton, Ohio, left on August 22 for his new post at Langley Field, Va., where he will join the next class to pursue the course of instruction at the Tactical School.

Major Curry has for several years been associated with McCook Field and Dayton. After a year's course in the Air Corps Engineering School at McCook Field, he was, in 1924, appointed Chief of the Engineering Division and served in that capacity until the reorganisation of the Air Corps and the establishment of the Materiel Division at McCook Field under General Gillmore.

In the new organisation Major Curry continued to serve as Commanding Officer of the field and also as Administration Executive of the Materiel Division, accompanying the Division in its move from McCook Field to Wright Field

The best wishes of the Materiel Division follow him in his new work.



RIVALS OF 1927.—The Avro Avian (Cirrus) and the De Havilland Moth (Cirrus) at Hamble.


MARTINSYDE F.4, fitted with 300 h.p. HISPANO SUIZA.

ADC AIRCRAFT LTD


D.H.9, fitted with 240 h.p. "PUMA."

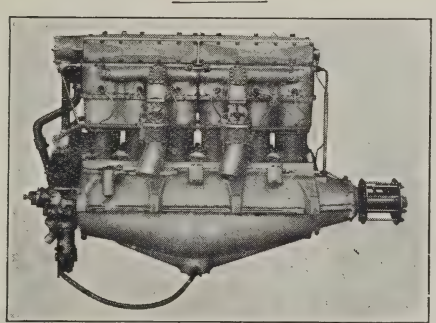
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MARTINSYDE F.4, etc.

SEAPLANE.
D.H.9 Seaplane.

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D.H.9.
etc., etc.



200 h.p. Siddeley "PUMA."

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360 h.p. R.R. "EAGLE VIII."	240 h.p. "PUMA."	210 h.p. "VIPER."	300 h.p. "HISPANO."
335 h.p. "NIMBUS."	30/80 h.p. "CIRRUS."	110 h.p. "LE RHONE."	130 h.p. "CLERGET."
	etc., etc.		

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THE SCHNEIDER TROPHY CONTEST.



THE WINNER.—The Supermarine-Napier S.5 which won the Schneider Trophy on Sept. 26 piloted by Flt. Lt. S. N. Webster, A.F.C., R.A.F.

A Royal Message.

The following telegram has been received by the Air Ministry from Lord Stamfordham, His Majesty's Private Secretary :—

"The King heartily congratulates the Air Ministry and the pilot Webster on the victory achieved in the Schneider Cup Race."

The actual race for the Schneider Trophy was postponed from Sunday, Sept. 25, because of unfavourable weather, and took place on Monday, Sept. 26, starting at 14.30 hours.

The race was won by the Supermarine-Napier S.5 (geared-engine) piloted by Flt. Lt. S. N. Webster, A.F.C., R.A.F., who flew the course of seven circuits at an average speed of 452.282 kilometres (280.87 miles) per hour.

The second place was also won by a Supermarine-Napier S.5 (ungeared engine) piloted by Flt. Lt. O. E. Worsley, R.A.F., who flew the course at an average speed of 439.742 kilometres (273.08 miles) per hour.



THE PILOT.—Flt. Lt. S. N. Webster, A.F.C., R.A.F., who flew the winning Supermarine-Napier S.5 in the Schneider Trophy Contest.

The third British machine the Gloster-Napier IVa (geared engine) piloted by Flt. Lt. S. M. Kinkead, D.S.O., D.S.C., D.F.C., R.A.F., was forced down after six circuits because the spinner came adrift. The Gloster-Napier IV made the fastest lap, the third, at an average speed of 465.402 kilometres (289.01 miles) per hour.

The three Italian machines were all forced to retire. The Macchi-Fiat 52 flown by Signor Ferrarin did not complete the first round but made a forced descent at Sabbioni with engine trouble. The Macchi-Fiat 52 Fiat monoplane flown by Major de Bernardi alighted at Sant-Andrea in the second round also with engine trouble. The Macchi flown by Signor Guazzetti broke down in the sixth round and alighted in the lagoon of the Alberoni.

Major de Bernardi on his one completed lap made a speed of 428.524 kilometres (266.11 miles) per hour, which is about half a kilometre per hour slower than Kinkead's first lap, and 23 km. (14 miles) per hour slower than Webster's first lap. It is unsafe to argue from first laps as to the real relative speeds of the British and Italian machines, but there seems very little doubt that the Italian machines were very distinctly slower than the British.

Signor Guazzetti—who alone of the Italians completed more than one lap—was fairly certainly nursing his engine for a considerable part of the time in the hope of making sure that he would be able to complete the course. Details of his lap speeds are not at present available, but his fastest lap is said to have been made at 264 m.p.h.

Flt. Lt. Webster's lap speeds varied between 450.55 and 457.41 kilometres (279.8 and 284.0 miles) per hour—a most amazingly consistent performance

Flt. Lt. Worsley showed a variation in lap speeds of from 433.73 to 444.20 kilometres (269.34 to 275.84 miles) per hour—almost as consistent as the winner's figures.

Flt. Lt. Kinkead's speeds showed rather a surprising variation. His slowest lap (the first) was at 429.14 kilometres (266.5 miles) per hour and his fastest (the third) at 465.40 kilometres (289.01 miles) per hour, a variation of over 23 m.p.h.

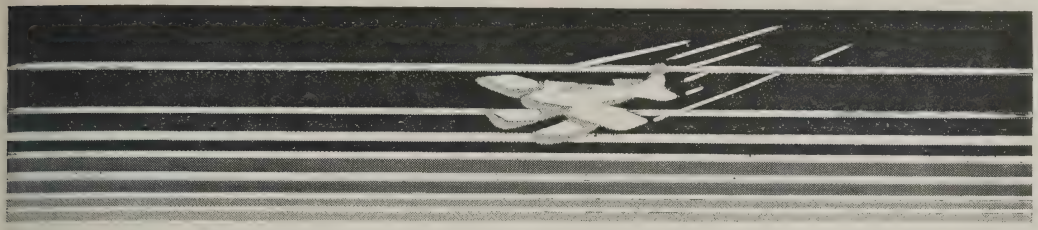
Flt. Lt. S. N. Webster joined the R.A.F. from the Infantry in 1918 and was posted to No. 60 Squadron, Risalpur, India, in July, 1919, where he served for two years. In October, 1921, he was posted to the R.A.F. Base, Gosport, and in 1923 to No. 22 (Bombing) Squadron, one of the Squadrons included in the establishment of the Aeroplane and Armament Experimental Establishment at Martlesham Heath. He was awarded the Air Force Cross in the King's Birthday Honours in 1922 and promoted to the rank of Flt. Lt. in January, 1927.

Full details of the Contest will appear in the Special Schneider Trophy Issue of The Aeroplane next week and in the meantime The Aeroplane offers the very heartiest congratulations to all concerned in this splendid victory.

American Congratulations.

The following cablegram has been received from New York :—

"Please express through your paper to pilots and motor and plane constructor of England heartiest congratulations of Curtiss Company on glorious victory at Venice (signed) Keys."



THE BLUE RIBAND OF THE AIR

SCHNEIDER CUP

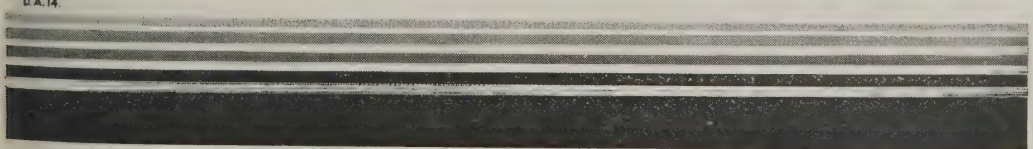
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This great triumph on Pratts Ethyl Petrol is the culminating achievement of a record-breaking year of successes on PRATTS, supreme in Air, on Land and Water.



D.A.14.



THE ROYAL AIR FORCE.

The London Gazette.

Sept. 20.

General Duties Branch.—The following Plt. Offs. are promoted to the rank of Flg. Off.:—A. W. H. Nelson (July 6); L. H. Anness, L. H. Mason, R. C. H. Monk (July 12); G. E. Campbell, D.F.M., A. H. Owen (Sept. 1). Plt. Off. on Probation J. H. Leach is confirmed in rank and promoted to the rank of Flg. Off. (Aug. 22); Flt. Lt. G. M. F. O'Brien, D.S.C., is restored to full pay from half-pay (Sept. 1).

Sq. Ldr. R. M. Drummond, D.S.O., O.B.E., M.C., is seconded for two years' duty with the Royal Australian Air Force (Aug. 3); Flt. Lt. J. B. Allen is transferred to the Reserve, Class A (July 5). The following Flg. Offs. are transferred to the Reserve, Class C:—C. W. S. Chalmers (Sept. 20); R. H. Rose (Sept. 20); A. C. Meredith (Sept. 22). The S.S. comn. of Plt. Off. on probation J. F. Duff is terminated on cessation of duty (Sept. 21).

Stores Branch.—Flt. Lt. F. T. McElwee is placed on the retired list (Sept. 21).

Medical Branch.—The following are granted S.S. comns. in the rank of Flg. Off. for three years on the Active List, with effect from, and with seniority of, Sept. 8:—G. T. O'Brien, P. O'Callaghan. Flg. Off. W. D. Guyler is promoted to the rank of Flt. Lt. (Dental) on promotion to Capt. in the Army Dental Corps (June 17).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—E. H. Armitage, H. O'B. Howat, H. R. Turner (Sept. 5); T. R. Morrison (Sept. 6). Plt. Off. on probation E. L. Purdy, M.C., is confirmed in rank (Sept. 16); Flg. Off. H. C. E. C. P. Dalrymple is transferred from Class A to Class C (June 4); Flt. Lt. R. C. Preston, A.F.C., resigns his comn. in Class A on appointment to a comn. in the Special Reserve (Sept. 20); R. C. Preston, A.F.C, is granted a comn. in the Special Reserve as Flt. Lt. (Sept. 20).

The following Flg. Offs. relinquish their comns. on completion of service:—E. S. Clark (Sept. 2); D. M. Deighton, A.F.C. (Sept. 9). The comn. of Plt. Off. on probation A. B. Maconochie is terminated on cessation of duty (Aug. 30).

The Prize Cadetships.

The Air Ministry announces that the Air Council have awarded Prize Cadetships to the following successful candidates at the examination held in June last for entry into the R.A.F. Cadet College, Cranwell:—

G. G. Barrett (Dulwich College), F. C. Cole (Blundell's School, Tiverton), S. S. Murray (Bedford School), R. C. Keary (Sherborne School), R. E. de T. Vintras (Brighton College), and H. H. Hilliar (King Edward VII School, King's Lynn).

The Stores Branch.

The Air Ministry announces that the following have been accepted for permanent commissions in the Stores Branch of the R.A.F. as a result of the competition held in July 1927:—

Cousins, C. J. (London, Crouch Hill), Allen, B. (Radlett, Herts), Thripp, C. (Cambridge), Penney, H. W. (Kingston, Surrey), Thompson, C. L. (Wylde Green, Nr. Birmingham), Smith, E. F. (London, S.W.17), Connock, A. (London, Forest Hill), McMullan, M. M. (Belfast), Butler, H. J. (New Malden, Surrey), Wrigley, H. A. (Morpeth, Northumberland), Hartley, C. M. P. (Coventry), Allerton, O. D. (Lowestoft), Head, T. A. (Cobham, Surrey), Atkinson, M. E. O'B. (Ballibay, Co. Monaghan), and McDiarmid, D. G. (Stirling).

A Fatal Accident.

The Air Ministry regrets to announce that as the result of a collision in the air at Duxford aerodrome at 10.30 a.m. on Sept. 24, between an Avro 504 K machine of No. 19 (F) Sqdn. and a Siskin 3A machine of No. 111 (F) Sqdn., No. 346825 Sjt. James Kelly, the pilot and sole occupant of the Siskin machine, was killed. The pilot and passenger of the Avro machine were uninjured.

At the inquest at Duxford on the same day the pilot of the Avro machine said that he had just taken off when at a height of 1,000 ft. he heard a loud explosion and then found that his controls would not act. He was able to glide downwind and land. He saw nothing of the other machine but found his starboard plane, rudder, and elevator damaged.

The Service Flying Boat Cruise.

Two of the Service flying-boats, the Blackburn Iris II and the Short Singapore completed their cruise of the Baltic on Sept. 11. They left Copenhagen at 07.50 hours on that date and owing to bad visibility flew low over Jutland and Tershelling Island. They alighted safely at Felixstowe at 15.50 hours.

The Supermarine Southampton, which, as recorded in The Aeroplane of Sept. 7 damaged an airscrew at Danzig, was delayed there until another airscrew could be flown out there and fitted. This machine flew home alone.

The Saunders Valkyrie was forced down off Königsberg and was damaged by heavy seas. This machine has been dismantled and brought home by sea-transport.

The Far East Cruise.

The Far East Flight, R.A.F., which has been assembled at Felixstowe, will leave Cattewater on October 17.

The Flight will be equipped with Supermarine "Southamptons" (Napier Lion engines) with metal hulls, and will cover about 23,000 miles before it takes up its station at Singapore.

The personnel of the Flight, which is commanded by Group Captain H. M. Cave-Brown-Cave, D.S.O., D.F.C., includes Sq. Ldr. G. E. Livock, D.S.C., Flt. Lts. P. E. Maitland, A.F.C., S. T. Freeman, M.B.E., D. V. Carnegie, A.F.C., C. C. Wigglesworth, A.F.C., and H. G. Sawyer, A.F.C., and Flg. Offs. B. Cheeseman, M.B.E., S. D. Scott and G. E. Nicholetts.

The Flight will go to Naples, Brindisi, Suda Bay, Abukir, Alexandretta, Basrah, Jask and Karachi, on the first stage of the cruise. The second stage will be Bombay, Colombo, Trincomalee, Madras, Calcutta, Rangoon, Penang and Singapore. From Singapore the Flight will go to Australia, round Australia, from Broome Bay to Carnarvon, Freemantle, Albany, Adelaide, Melbourne, Sidney, Brisbane, Thursday Island, and Port Darwin, and back to Singapore.

The Air Defences of Great Britain.

In connection with the final training this year of the Observer Corps, which lasted from Sept. 19 to Sept. 23, the following statement was issued by H.Q., Air Defences of Great Britain:—

The Air Defence exercises were carried out during the past week by the Observer Corps and certain Squadrons of the R.A.F. with the co-operation of the G.P.O. authorities. The exercises arranged for Wednesday and Friday had to be abandoned, the country being covered by clouds at 200 or 300 feet accompanied by heavy rain. On the other days the exercises were successful although the weather conditions made work none too easy either in the air or on the ground. (The observer posts and centres are manned entirely by volunteers who enrol as special constables and the exercises are arranged as far as possible at times which will suit their convenience. The conditions under which the Corps will serve in war time are still under consideration. Relief will be on such a scale as to interfere to only a strictly limited extent with the ordinary avocation of individual members.)

The results of the exercises carried out were highly satisfactory, the observers in every instance observing and reporting the raiding aircraft.

The Army Senior Officers' School.

The following officer of the R.A.F. has joined the Army Senior Officers' School, Well Marsh, Sheerness, for the 25th course:—Wing Cdr. C. C. Miles, M.C.

The East African Campaign Dinner.

A Re-Union Dinner for all who took part in the East African Campaign will be held at Harrod's Restaurant, Knightsbridge, on Friday, October 14, at 7 for 7.30 p.m.

General Northey will be the Guest of the evening.

The dinner will be an informal one and dress and decorations will be optional.

Application for tickets (7s. 6d. each not including drinks) should be made to A. W. Lloyd, 20, St. Thomas' Mansions, S.E.1.

THE FLIGHT TOWARDS THE CAPE.

Lieutenant Bentley of the South African Air Force, who is attempting to fly from Stag Lane to Cape Town on a D.H. Moth (A.D.C. Cirrus II engine), arrived at Mongalla on Sept. 18 and Kisumu on Sept. 19.

Mr. Bentley arrived at Johannesburg on Sept. 26. He was escorted by five South African Air Force machines and welcomed by the Mayor of Johannesburg.

A LIGHT AEROPLANE WANTED.

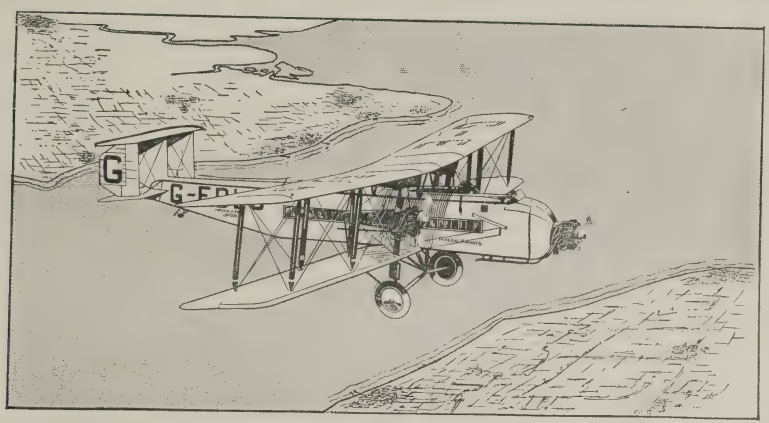
A Reader of The Aeroplane who served with No. 48 Squadron, R.F.C., and later at the R.A.E., Orfordness and Martlesham Heath, and who is now planting tea in Upper Assam, is very interested in the possibilities of light aeroplanes in that district. He says that they have an excellent aerodrome on the Estate. Any firm or individual with light aeroplanes, new or part-worn, for sale and who would like to get into touch with this prospective buyer should write to "Tea Planter," c/o The Aeroplane, 175, Piccadilly, W.1, and their letters will be forwarded.

AN EDITORIAL ERROR.

The machine in the picture on the front cover of The Aeroplane last week were inaccurately described as two Avro Avians. One of them is an Avro Avian and the other a De Havilland Moth. Both have Cirrus engines.

The ARGOSY —

"The Most Commercial Aeroplane in the World"



"The Times" says : "The Armstrong Whitworth Argosy used over a route capable of furnishing a steady traffic is probably the most commercial aeroplane in the world and is far ahead of any aircraft yet produced by countries which make a greater show of air transport than Great Britain."

"The Aeroplane" says : "Imperial Airway's Argosies are said to be a source of constant annoyance to the inspection staff as they are so rarely able to discover any defects. These machines have given great satisfaction and have been singularly free from those irritating minor defects which have previously troubled the earlier career of new types of aircraft, when subjected to regular air line service."

These tributes were written after twelve months' service on the London-Paris Airway.

PRINCIPAL FEATURES :—

Paying Load (20 passengers and luggage)	4,500 lbs.	Power of three Jaguar engines...	1,200 h.p.
Maximum Weight loaded ...	18,000 lbs.	Span	90 ft.
Cruising Speed	95 m.p.h.	Length	64' 6"
Top Speed near ground... ...	109 m.p.h.	Height	19' 0"
Range in still air...	340 miles	Wing Area	1,890 sq. ft.
Greatest height with full load	11,000 ft.	Wing loading	9·5 lbs. per sq. ft.
		Power loading	15 lbs. per h.p.

Price £22,500.

Sir W. G.

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London : 10, Old Bond Street, W.1.

KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

LIGHT AEROPLANE RECORDS.

The Royal Aero Club has received a notification from the Federation Aeronautique Internationale that the following World's Record has been granted :—

Light Aeroplanes, 3rd Category.—Single-seater aeroplanes weighing from 200 to 350 kilos. (440 to 770 lbs.).

Speed over 100 kilometres (62.1 miles).—Capt. H. S. Broad (Great Britain) on a De Havilland "Tiger Moth," 32/130 h.p. De Havilland Engine, at Stag Lane Aerodrome, Edgware, on Aug. 24, 1927, 300.100 kilometres (186.47 miles) per hour.

TESTING THE "ENTE."

The new Focke-Wulf F.19, known as the "Ente," or Duck, which, it is claimed, is completely stall-proof as it is built on the principle of the "Canard" machines with a forward plane carrying the elevator, made a very successful flight of 10 minutes' duration on Sept. 2.

The wind was very light at the time. Herr Wulf piloted the machine, which had a flying weight of 1,405 kg. (3,095 lbs.), the weight empty being 1,155 kg. (2,545 lbs.) The elevator was set at the mean position and the angle of incidence of the forward and main planes, as also the position of the c.g., corresponded exactly to the data determined in the model tests carried out at Göttingen.

The machine took off normally in 650 ft. (the controls being tested meanwhile) maintaining a negative angle relative to the ground at first, and climbed rapidly to about 500 ft. and then turned with perfect ease flying over the starting point at an altitude of about 650 ft. Herr Wulf at this point let go of the controls and waved both hands, thus demonstrating the perfect stability of the machine.

He then climbed the machine further and described wide circles in the distance, making use for some of the turns of the control obtained by lateral inclinations of the forward plane.

On the engines being shut off, the machine went over automatically into a glide. The after wheels touched ground very gently after a glide in extending over 350 ft., the forward wheel touched after another 160 ft. had been covered and the aeroplane came to rest after a fairly long run, which will be much reduced when the rear wheels are fitted with a brake as can be done very easily.

The stability about the three axes was entirely satisfactory and the action of the control surfaces was accurate and powerful. The behaviour in the air including the speed, which spectators estimated at 140 km./hr. (87 m.p.h.), conformed in all particulars with expectations based on the calculations and the Göttingen tests.

Constructionally the wing and fuselage are copied from the Focke-Wulf A.16, the rear undercarriage from the A.20 and the engine mounting is adapted from the G.L.18.

The forward plane which is trapezoidal in plan and similar in construction to the main plane is mounted on a faired-off extension of one of the fuselage bulkheads in such a way as to be capable of lateral inclinations to reinforce the turning moment (e.g., when one engine fails).

The forward wheel is mounted at the centre of the fuselage and within the fuselage up to the hub. The steel axle is mounted by means of rubber cord in slots provided in a pair of fuselage struts made specially wide for the purpose. The rudder, which is aft, is extra large.

WEIGHT ANALYSIS.

(1) *Power Unit.*
2 × 75 h.p. Siemens II engines 290 kg. (640 lbs.)
Airscrews and accessories 60 kg. (132 lbs.)
Two petrol tanks [90 litres (20 galls.) each] 24 kg. (53 lbs.)
Two oil tanks [12 litres (2½ galls.) each] 6 kg. (13 lbs.)
Power unit ... 380 kg. (838 lbs.)
(2) *Aeroplane.*
Fuselage (with fittings and controls) ..... 372 kg. (820 lbs.)
Rudder unit ... 13 kg. (28 lbs.)
Main plane with ailerons and engine mounting 240 kg. (530 lbs.)
Forward plane with elevator 60 kg. (132 lbs.)
Rear undercarriage 60 kg. (132 lbs.)
Forward wheel with shock absorbers ..... 15 kg. (33 lbs.)
Weight empty 1,140 kg. (2,513 lbs.)
(3) *Loads.*
Petrol for 3 hours 125 kg. (275 lbs.)
Oil for 3 hours 15 kg. (33 lbs.)
Pilot ..... 80 kg. (177 lbs.)
Three Passengers 230 kg. (507 lbs.)
Total load ... 450 kg. (992 lbs.)
Total weight 1,590 kg. (3,505 lbs.)

A FRENCH AIR MAIL TO SOUTH AMERICA.

A subsidy of £50,000 in the present financial year and £314,000 in subsequent years has been granted by the French Government to the Latecoère Air Line of France for the establishment of a regular air mail service between West Africa and the South American Continent. The Service will run between Saint-Louis (Senegal) and Pernambuco *via* the Cape Verde Islands and Fernando de Noronha travelling once a week in each direction from Oct. 15, 1927. It will be linked with Marseilles by the existing Latecoère air services at the European end and will be carried on to Rio de Janeiro, Montevideo and Buenos Aires at its southern extremity.

Aeroplanes will be used over land and seaplanes or flying-boats over water and all the aircraft used on the route must be fitted either with wireless transmitters or provided with carrier pigeons. The service may be authorised to carry passengers later on but to begin with mails only will be carried. It is hoped that by this method letters which now take 25 days to travel from France to Buenos Aires will be delivered within eight days.

THE COLOGNE MEETING.

A Flying Meeting was held at Cologne on Sept. 17 and 18 when speed and aerobatic trials of the usual kind took place.

Herr Fiesler, who is noted for his upside-down flying and is credited with having flown inverted for 10 mins. 56 secs., gave a remarkable display of this nature.

A Congress of the German equivalent of our Aeronautical Society (though one gathers a trifle more active and accurate in its achievements) took place in Wiesbaden during the week and the Flying Meeting was held in connection with this Congress.

The *Frankfurter Zeitung* and other German papers complained that the Inter-Allied Rhineland Commission forbade certain arrangements made by the organisers of the Meeting and ignored the Paris Agreement which relaxed the air restrictions imposed by the Treaty of Versailles. *The Times* correspondent at Cologne says :

It is stated that the High Commission, without giving any reason, prohibited certain propaganda flights in connection with the meeting and refused to sanction the entry into occupied territory of some 20 to 36 members of the Reichswehr (the numbers vary with the different accounts) who wished to take part in the meeting. The *Kölnische Zeitung* adds that Professor Junkers, who was to have flown from Dessau to Mainz for the event, has been forbidden to land in occupied territory.

On inquiry at the Rhineland High Commission in Coblenz your correspondent was informed that nothing is known about a prohibition of Professor Junkers's landing. The prohibition of the propaganda flights in Rhine-Hessen is due partly to the fact that the British Rhine Army exercises, for which preparations are being made, will begin in that area to-morrow. The refusal to allow the Reichswehr officers to enter occupied territory is strictly in accordance with Article 15 of Ordinance 308, which states that members of the Reichswehr may enter occupied territory only to visit members of their family or on other private business.

The allegations which have been made in the German Press that the recent relaxation of air restrictions applies only on paper is a gross misrepresentation. German pilots and passenger service aeroplanes fly daily over occupied territory, and only last month the Rhineland High Commission sanctioned the construction of three new German aerodromes in occupied territory.

A GERMAN LONG-DISTANCE FLIGHT.

Herr Könnecke, a Luft Hansa pilot, accompanied by Count Solms as a passenger and Herr Herrmann as a wireless operator, left Cologne on Sept. 20 in a Caspar bi-plane (Junkers L5 engine) in an attempt to fly to Tokyo.

Herr Könnecke and his passengers landed at Angora at 08.30 hours on Sept. 21. and left for Basrah at 06.30 hours on Sept. 24. At the time of going to press there is no further news of the flight.

THE FIRST BRITISH-MADE AEROPLANE IN DENMARK.

A well-known Danish Polar explorer, Mr. Peter Frenchen, has ordered a Moth for his own private use. This gentleman, who had the misfortune to lose a leg as the result of gangrene, is now engaged upon agricultural work on a small island which he owns. He has engaged as pilot Lieut. Steinbeck, of the Army Flying Corps, who is an old regular pilot on the Danish and German air lines.

BRITISH AIRSHIPS LIMITED.

A notice of the formation of a new Company known as British Airships Ltd. appears under the Company Notices in this issue of THE AEROPLANE. The Managing Director Mr. C. Lincolne Sutton (Lt., R.N., retired), states that the Company is at present concentrating on the production of an essentially commercial type of semi-rigid airship on lines showing a distinct departure from the usual practice. He adds that the provisional patent has been granted to the company on the features of this design and that airships of this type will be built both for long-distance flights and as night-flying links with other air services both present and future. The Company will neither construct nor operate but will deal in approved designs, patents, etc., and carry out further research on the attainment of its present main object.

ANOTHER BRISTOL SUCCESS.

The first prize in the Sachsenflug contest was won by Herr Theo Croneiss, a Director of the Nordbayerische Verkehrsflug G.m.b.H. of Furth, Germany, on a Messerschmitt monoplane fitted with a Bristol Cherub Series II engine.

In a letter to the Bristol Aeroplane Company Ltd. Herr Croneiss states :—This is a further proof of the good quality and reliability of your engine, for which we express to you our recognition.

TITANINE

THE WORLD'S PREMIER

DOPE

"TITANINE" DOPE

gives constant tautness to the fabric

under varying atmospheric conditions.

Used for the great flights of

COBHAM, PINEDO, FRANCO,

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Telegrams and Cables :—
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Codes: A.B.C. 5th Ed. and Bentleys.

Works: Hendon (London),
New Jersey (U.S.A.),
Milan (Italy).

METAL AIRCRAFT DEVELOPMENT IN AMERICA.

In a paper on Modern Naval Aircraft by Lt.-Commander Lawrance B. Richardson of the U.S. Navy Construction Corps printed in the September issue of the Journal of Automotive Engineers, there are certain remarks on the subject of metal construction of aircraft of an interesting nature

According to the author the majority of fuselages in American naval aircraft are still of the welded mild steel tube type, but the mild steel tube is being replaced in more recent craft by chrome-molybdenum steel of about 95,000 lbs. per sq. in. ultimate tensile strength. A tendency to abandon welding for clamped or rivetted joints and to resort to forged or machined fittings is however becoming evident.

Duralumin is slowly replacing steel in non-welded structures, but the experience of the U.S. Navy with corrosion of this material has been profoundly discouraging. Some large all-metal hulls for flying-boats have been produced, but considerable doubts are felt as to their probable length of life and cost of upkeep. Even in wing structure corrosion difficulties have delayed the extended use of this alloy.

The anodic process for the protection of duralumin, developed in Great Britain, is apparently not yet in regular use in the United States, but Lt.-Comm. Richardson believes that it will prove to be a solution of this particular trouble.

The use of stainless steel for fittings on seaplanes is mentioned together with the remark that this material " is very expensive and somewhat unreliable . . . . The facts that it requires heat treatment and polishing to be really rust-proof militate against its use in aircraft."

There is no mention in the paper of any development of the all-steel type of construction so highly developed in this country.

From this statement by a very trustworthy authority it may be deduced that the American aircraft industry is—apart from the almost universal use of steel fuselages—far behind this country in the development of all-metal aircraft. This backward position is due—apparently—to a failure to develop any process of protecting the light alloys as effective as the British " anodic " treatment, so far as concerns these particular alloys.

Also the remark as to stainless steel suggests that in this country—which is the home of stainless steel—we have developed much more satisfactory corrosion-resisting steels than are available in the United States. There are certainly British corrosion-resisting steels that are reliable and easily worked and do not depend upon surface polish for their rust-resisting qualities.

NEON II.

At a meeting of Members of the Institute of Marine Engineers, held at the Shipping, Engineering and Machinery Exhibition at Olympia on Sept. 20, a Mr. E. F. Spanner, late of the Royal Corps of Naval Constructors, invited the aforesaid Institute to " take some step which will result in the Institute's putting it on record that it has no faith in the technical, practical, or commercial aspects of the airship policy of the Air Ministry and wishes to see that policy dropped forthwith."

To justify his invitation he read a paper wherein he stressed many of the very serious difficulties which have to be overcome before an airship can be constructed at all.

The Aeroplane has not been favoured with a copy of the said paper, and has therefore to rely upon such reports as have appeared in the Press. From these the author appears to be an earnest disciple of " Neon," and to hold with his forerunner a belief that a mere statement of difficulties to be overcome in the process of airship design and construction is sufficient to show that the difficulties would not be overcome.

It is a little surprising that one who is obviously an engineer should so completely have forgotten the history of engineering. Had he not done so he could scarcely have failed to remember that had his professional ancestors listened to all those prophets who in the past have proclaimed the impossibility of doing things which have since in fact been accomplished, there would not to-day be any Marine—or other—engineering, and he could not conceivably have practised those arts upon which he has in fact subsisted.

Mr. Spanner does not appear to have brought to light any problem hitherto unknown to, or unconsidered by those responsible for airship design and construction.

He does appear however to suggest that the official heads of the Air Ministry are carrying on with the policy of airship development against the advice of their own airship experts. This suggestion is very carefully worded, and the author may quite safely claim that what he has actually said means a good deal less than it might be taken to mean, but there can be little doubt as to the interpretation which will be put on his remarks in some quarters.

In a discussion which followed the paper Commander C. D. Burney of the Airship Guarantee Co. Ltd., and Wing Cdr. T. R. Cave-Brown-Cave of the Air Ministry, though both admitting the serious difficulties which faced the airship designer and constructor, expressed confidence in the possibility of overcoming all of them satisfactorily, and ridiculed the idea that the Air Ministry could afford to do nothing about airships because of the difficulties which would inevitably be encountered if they attempted to do anything.

CANADIAN ENTERPRISE.

The Montreal correspondent of *The Daily Telegraph* in a message dated Saturday, Sept. 17, states :—

The first mail delivery from the ship's side at Father Point, Quebec, was effected to-day, when an aeroplane which left Quebec at eight o'clock this morning landed special mails from the *Empress of Australia* in Montreal at four o'clock this afternoon, all in good condition. One stop was made at Three Rivers, to fuel. The first attempt made recently failed, but the seaplane driven by Pilot Graham, of the Royal Canadian Air Force, made a good passage with 500 lb. of mail.

This method saves about fourteen hours as compared with the railway, enabling business men to deal with matter on Saturday which would otherwise not be delivered until Monday.

AMERICAN ENTERPRISE IN AUSTRALIA.

The success of the flying club movement in Australia, which has been entirely the result of British enterprise in producing satisfactory light aeroplanes, is naturally stimulating Australian public interest in flying and is creating what will soon inevitably become a very large market for economical aircraft.

So far the British aircraft manufacturer has had the Australian market to himself. At the present moment however an enterprising American firm has an agent and two samples of cheap civil machines in that Dominion. One is a two-seater which is offered at approximately £450, and the other a four-seater offered at £750. These are the prices in Australia after paying import duty.

These machines are produced by a firm with a very high reputation throughout the world, and are reported—on Australian authority—to have an excellent performance.

As the price in Australia of a four seater is approximately the price in England of a British two-seater light aeroplane, it looks as though the British manufacturer will have his work cut out to keep the Australian market which he already has—at any rate so far as the private-owner class is concerned.

For officially subsidised air lines the British manufacturer is to some extent protected by the requirement that only aircraft of British manufacture may be used. But if the American Industry can turn out machines so much cheaper than can the British Industry, it seems likely that arrangements to manufacture American designs in Australia will overcome this difficulty.

GERMAN AIRCRAFT DEVELOPMENT.

Those who are interested in the development of German aircraft will find much interest in *Deutsche Kraftfahrzeug-Typenschau,* published by Verlag Deutsche Motor-Zeitschrift G.m.b.H., of Muller-Berset-Str. 17, Dresden A.19. It contains 41 pages of illustrated descriptions of German aeroplanes and 10 of German aero-engines, each page of about the size of a page of The Aeroplane. And the price is only 2 marks 30. The book has been compiled by Herr Erich Meyer, who has for several years past contributed to The Aeroplane and to *All the World's Aircraft,* and is very well done.

A GERMAN AIR DISASTER.

A Dornier Merkur monoplane, a regular passenger machine on the Luft Hansa line from Berlin to Munich, crashed near Saalfeld, Thuringia, on Sept. 13. The pilot, Herr Charlett, a mechanic named Feiler and four passengers including the Baron von Maltzan, the German Ambassador to the United States, and Count von Arnim, a director of Luft Hansa, were killed.

The Luft Hansa is as yet unable to offer any explanation of the disaster. The machine was put into service four months ago after the usual tests. Herr Charlett was one of the most experienced pilots of the Luft Hansa and had flown over 250,000 kilometres in the Company's service without an accident.

The Baron von Maltzan was on leave in Germany, and was shortly returning to Washington. Official condolences have been sent from Washington to the German Government.

LES AFFAIRES LEVINE.

Mr. W. G. R. Hinchliffe flying the Wright-Bellanca monoplane Miss Columbia with Mr. Levine as a passenger left Cranwell at 08.07 hours on Sept. 23 in an endeavour to make a non-stop flight to India. They landed at Aspern, the air port of Vienna, at 17.55 hours in torrential rain.

Mr. Hinchliffe and Mr. Levine left Aspern in the Miss Columbia on Sept. 25 for Venice.

The causes of the descent at Aspern are said to be an irregular feed of oil to the engine and the stormy weather.

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11,900 miles *on* Shell Aviation Petrol

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WHO WON?—Mrs. Eliott-Lynn (left, on Viper S.E.5a) and Mr. Sparks (right, on Airdisco S.E.5a) crossing the finishing line in the High Power Handicap at Hooton Park. Officially Mrs. Lynn was awarded the race, but there was a lot of doubt as to who really crossed the line first.—(*"Aeroplane" photograph.*)

AQUATIC SPORTS NEAR LIVERPOOL.

Those who were responsible for the organisation of the Air Pageant at Hooton Park, near Liverpool, on Sept. 24, were afflicted by misfortune which they were very far indeed from having deserved. The said Air Pageant was the opening of the Liverpool Civic Week—an affair which so far as one is able to gather is intended primarily to make the citizens of Liverpool more Liverpool-minded.

Certain gentlemen—among whom the members of the Lancashire Aero Club must be given a prominent place—succeeded in convincing those responsible for the organisation of the Civic programme that Liverpudlians would have greater reason for pride in their citizenship if Liverpool could be persuaded to take a more active interest in flying, and the Pageant was accordingly arranged.

The Committee responsible for the arrangements was under the Chairmanship of Mr. F. J. Marquis, a prominent Liverpool business man, and consisted—in addition to the Chairman—of three representatives of Liverpool and of three representatives of the Lancashire Aero Club.

The latter body made all arrangements for the actual flying. Mr. G. H. Dawson placed the Hooton Aerodrome—now one gathers a polo-ground—at the disposal of the meeting, and between them those responsible for the Pageant made every possible arrangement for the success of the meeting—except only that they did not secure control of the weather.

In point of fact the meeting was a success. It rained, and it rained, and when everybody felt certain that it coudn't rain any more, it rained harder still. It did this all the morning while the preliminary heats in the races were in progress. By the time that the public part of the meeting was advertised to start, the free water level over most of the aerodrome and a large part of the enclosures was certainly above the turf level.

As far as one can discover it was impossible to reach the aerodrome by any road that was not somewhere completely under water. Yet flying started to scheduled time, and the events were run off punctually—save as hereinafter described—and, still more extraordinary, at least 5,000 people and about 2,000 cars paid to come and see the show.

And the great majority of the said spectators remained to watch the really excellent performance put up for their amusement and education until between 5 and 5.30 p.m. By this time all officials and competitors and most of the spectators were drenched to the skin, and it was decided to wash out the last two races on the programme—the race for the Ladies' Cup and the final of the Open Handicap, and to run these off on Sunday morning.

This was a very sound decision. The spectators lost nothing, for it was practically impossible in the rain to see anything at all of the races, except that certain machines were obviously taking part in them. In fact it was so bad that when two machines both of the same type crossed the finishing line with half a machine length between them the judges themselves were unable altogether to agree which one was which.

The competitive events consisted of six races and a landing competition. These and their results are duly recorded at the end of this essay. The only thing noteworthy about these events except the very filthy weather—for not only was it very wet, and very difficult to see, but it was also appallingly bumpy—was the exceedingly stout performance of the many amateur pilots, who seemed entirely unperturbed by the conditions.

Apart from races there was an excellent exhibition programme. In this the R.A.F. took a very large part. There was a parade and fly past of Service aircraft, in which there appeared a flight of three Gamecocks, one Lynx Avro, one Sopwith Snipe, three Bristol Fighters, one Hawker Horsley, one Handley Page Hyderabad and one Vickers Virginia.

The three Bristol Fighters gave a finished display of formation flying, the Snipe one of aerobatics, there was an excellent air combat between the Snipe and the Bristol, there was upside-down flying by the Snipe, formation stunting by the Gamecocks—and in fact just the kind of exhibition that one has learnt to expect from the R.A.F. on such occasions.

In addition Mr. Neville Stack "Stunted" on a Moth, Mr. Robinson of Imperial Airways (Handley Page W.10), Mr. McConnel of Surrey Flying Services, Mr. Adams of the Cornwall Aviation Company, and Sir Alan Cobham, A.F.C., carried joy-ride passengers in quite considerable numbers during the afternoon.

Altogether the show cannot have failed to convince the Liverpool Civic Authorities—and those of the citizens who were brave enough to come and see it—that flying, whatever else it may be, is not purely a fine weather affair.

Conditions on Sunday morning were precisely as bad as were those on Saturday afternoon except that the air was free of bumps. The two postponed races were flown off, and then Mrs. Marquis, wife of the Chairman of the Organising Committee, presented the prizes to the successful competitors, and the meeting broke up.

It may be added that on the Friday evening there was held an official banquet given by the Liverpool authorities at which the most lively interest in flying was displayed by the representatives of that great city. Further, on Saturday evening there was at the Grosvenor Hotel, Chester—where the majority of the members of the Lancashire Club were foregathered—an affair described by Mr. John Lord as "a bit of a shee-mozzle." Thus really everybody enjoyed themselves—except possibly the Lancashire Aero Club's Finance Committee, whose half share in the gate money will

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not be as large as they might reasonably have expected it to be, and Mr. Dawson, the turf of whose excellent polo ground must have suffered much from many tail skids.

RESULTS OF THE COMPETITIONS.

Landing Comptition.—For the Sir Charles Wakefield Trophy and Stakes of £30: *First*, Mr. Will Hay (London Club) (D.H. Moth G-EBMF). *Second*, Mr. J. F. Costa (Lancashire Club) (D.H. Moth G-EBMQ).

Hooton Park Handicap and Stakes.—First, Mr. F. G. M. Sparks (London Club) (D.H. Moth G-EBMF), 82½ m.p.h. *Second*, Capt. W. J. McDonough (Midland Club) (D.H. Moth G-EBLW). *Third*, Mr. W. L. Hope (D.H. Moth G-EBMV).

Liverpool Civic Week Cup and Stakes of £100 (High Power Handicap, machines over 100 h.p.).—*First*, Mrs. Eliott-Lynn (S.E.5a, Viper engine, G-EBPA) (117.75 m.p.h.). *Second*, Mr. F G. M. Sparks (S.E.5a, Airdisco engine, G-EBTO). *Third*, Mr. John Leeming (Renault Avro, G-EBOK).

Inter-Club Members' Race for the Mrs. John Leeming Challenge Cup and Stakes of £50.—*First*, Flt. Lt. Le Poer Trench (Halton) (H.A.C.I., Cherub engine). *Second*, Mr. W. Rogers (Nottingham) (Moth X G-EBSK). *Third*, Mr. M. Lacayo (Lancashire) (Avian G-EBRR).

Low Power Handicap for the Liverpool Organisation Cup and Stakes of £75.—*First*, Mr. W. L. Hope (Moth G-EBMV). *Second*, Mr. W. Rogers (Nottingham) (Moth X G-EBSK). *Third*, Mrs. Eliott-Lynn (Avian G-EBQL).

Ladies' Cup and Purse of £40.—*First*, Mrs. Eliott-Lynn (S.E.5a G-EBPA). *Second*, Lady Bailey (Moth G-EBPU). *Third*, Miss O'Brien (Moth G-EBMF).

Open Handicap for the S. E. Rodman Cup and Stakes of £75.—*First*, Mr. F. G. M. Sparks (S.E.5a, Airdisco engine, G-EBTO). *Second*, Flt. Lt. Le Poer Trench (H.A.C.1 G-EBOO). *Third*, the Hon. Lady Bailey (Moth G-EBPU).

THE CORNWALL AVIATION COMPANY.

The Cornwall Aviation have been doing good work in the North Country. On Sept. 27, they gave an aerobatic display during the Carnival which was held at the West End Sands. This display was described by a local paper as "The most attractive feature of the Carnival," and all the more credit is due to the pilots because the events were carried out in the pouring rain.

In spite of appalling weather thousands of people collected along the sands and on the Promenade to witness the flying. Events included an exhibition of Crazy Flying by Capt. P. Philips and Mr. S. Summerfield; and a Bomb Dropping competition in which members of the audience were invited to take part. Three brave onlookers volunteered and were taken as passengers in the machines to unload bombs (consisting of bags of flour which burst on impact) upon a target. Much to the delight of the multitude the only contestant to hit the target was Alderman Siddle Other events were Aerial Leap-Frog, Balloon Bursting, and an Obstacle Race. The display finished with a "spectacular wing-walking stunt" by Mr. A. J. Adams and Mr. F. Draycott.

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Sept. 25

Flying Time 26 hr 55 min. *Instruction* 12 hr. 35 min. *Soloists* 12 hr. 25 min. *Passengers* 1 hr. 55 min.

Instruction.—With Mr. F. G. M. Sparks—J. W. Radbone, R. G. Whalley, I. E. Furlong, Capt. Burt, M. Parkin. *With Mr. S. L. F. St. Barbe*—F. Yeats-Brown, G. W. Hall, Miss Wilson, W. L. M. O'Connor, L. Rowson, G. Black, L. Martin, G. E. Clair, Capt. Burt, F. C. Fisher, J Bickley. *Soloists.*—Miss O'Brien, B. B. Tucker, A. F. Wallace, I. C. Horton, A. R. Ogston, Maj. Beaumont, G. H. Craig, J. H. Saffery, K. V. Wright, Capt. Spooner, O. J. Tapper, Will Hay. *Passengers.—With Mr. S. L. F. St. Barbe*—Mrs. Hughes, Mr. T. Hughes. *With Mr. R. Malcolm*—C. D. Elliott. *With Maj. Beaumont*—J. Nesbitt. *With G. H. Craig*—A. Fowler.

The London Aeroplane Club was represented by one D.H. Moth at the Hooton Park Meeting on Sept. 24. Mr. F G. M. Sparks won the "Cirrus" Mark I Engine Race and Mr. Will Hay won the Landing Competition, while Miss S O'Brien was third in the Ladies' Race.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Sept. 25.

Owing to the Hooton Park Meeting flying figures for the week are not available at the moment and will be included with next week's report.

On behalf of the Club one returns thanks to the many pilots and sportsmen who flew to, at, and from Hooton Park over the week-end, and under adverse weather conditions. No one could possibly have been blamed for "cutting out" on Saturday and yet, up to 5.30 p.m., at which hour flying was washed out for the day, every item on the programme had been carried out, and only 3 out of 16 events remained. Two of these were flown off on Sunday morning and the "Set Piece" (which the authorities decided would have been blown down before it could be blown up) was the only item not performed. For which result, much thanks.

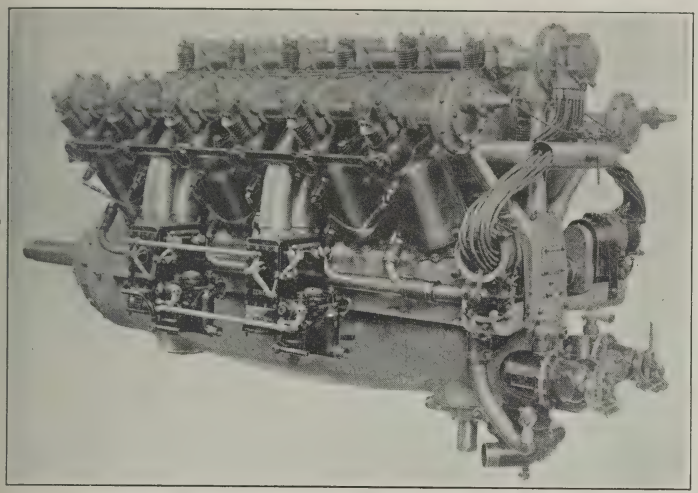
The attendance was rather less than one-tenth of what it ought normally to have been and one is of the opinion that the 5,000 or so spectators who saw the show through were not without a touch of heroism. However, from comments overheard they seemed to feel that they'd had their money's worth—and they had!

Financially it is doubtful if the meeting benefited anyone except the dangerous Sparks—Hay combination and our most renowned lady pilot (Oh, yes—and the B.A.I.G., one had almost forgotten them!), but it did definitely do civil aviation a bit of good and it brought about a gathering of cheery sportsmen whose spirits seemed to rise superior to any moisture, whether applied internally or externally. So who shall say that it wasn't well worth while?

We are broke for the rest of the year, so here's wishing fine weather and every success to the Yorkshire and Bristol meetings, so that we may be able to go and borrow a fiver off them in our hour of need.



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1925.

Rome—Melbourne—Tokio—Rome. Colonel the Marchese de Pinedo. Savoia Flying Boat (450 h.p.). 54,000 kms. in 380 hours.

New York—Buenos Aires. MM. Duggan, Oliveiro, Campanelli. Savoia Flying Boat (450 h.p.).

1926.

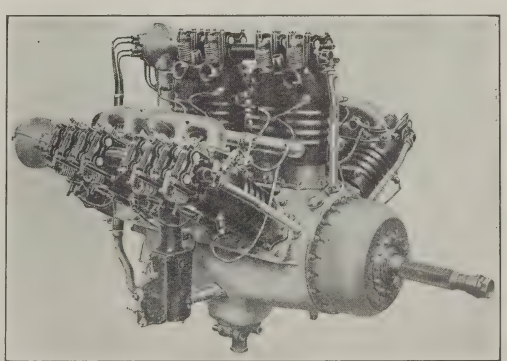
World's Height Record. M. Callizo, on a Bleriot Spad 61 (450 h.p.). 12,442 m.

Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris — Rome — Tunis — Casablanca — Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs 45 mins.



450 H.P. Direct Drive or Geared.

1927.

Across Africa. Capt. De Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h.p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h.p.). 2,565 kms. in 17 hrs. 30 mins.

SOCIÉTÉ LORRAINE-DIETRICH, Argenteuil (Seine et Oise), France.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Sept. 25.

Flying Time 15 hr. *Instruction* 3 hr 25 min. *Soloists* 20 min. *"A" Pilots* 10 hr. 10 min. *Tests and Passengers* 1 hr. 5 min. *Instruction.—With Mr. Parkinson*—Messrs. McDougal, Lawson, Alderson, Griffiths, Glenny. *Soloists under instruction.*—Mr. McDougal. *"A" Pilots.*—Messrs. Maxwell, Jewett, Turnbull, Mathews, Elmes, Mrs. Heslop, Lieut. A. P. C. Hanney, Dr. Dixon, Messrs. C. Thompson, R. N. Thompson. *Passengers.—With Mr. R. N. Thompson*—Miss Cokayne, Mr. P. Lawson. *With Mr. C. Thompson*—Mrs. Heslop, Mr. Bulmer and Mr. Luckman. *With Mrs. Heslop*—Mr. C. Thompson. *With Dr. Dixon*—Miss Dixon.

The weather has again been vile, only two reasonably decent days have been experienced and on these days six and seven hours each were flown out of the total of 15 hours for the week. In addition, only one machine is on service.

The Club has had the pleasure of a visit from Flt. Lts. Pierce and Crofton and Flg. Off. Thorne during the week-end who have been co-operating with local Anti-Aircraft units.

A very happy evening was spent on Sunday when among other attractions in the programme of entertainments the performance of a one-armed violinist was much appreciated.

The Club very much regrets to learn of the accident to Capt. Milburn who has been a very popular member for some time. The members are very pleased to know that at the time of writing these notes he is making good progress and sincerely hope that he will have a speedy recovery.

The Yorkshire Light Aeroplane Club.

Miss Dorothy Evelyn Ellison, a passenger with Capt. Anthony Milburn, of the Yorkshire Light Aeroplane Club, was killed in an accident to a D.H. Moth on Sept. 23. At the inquest on Sept. 26 Mr. Geoffrey Beck, chief instructor to the Club, said that he was of the opinion that the pilot got into a spin at a low altitude and had not sufficient height to recover.

Capt. Milburn, the pilot, was seriously injured and was reported on Sept. 26 to be critically ill at the Heworth Moor Nursing Home.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Sept. 25.

Weather.—Tues., Gale and rain. Wed., Gale and rain. Thurs., Gale and rain. Fri., Torrential rain after 12.00 hours

Flying Time 12 hr. *Instruction* 6 hr. 50 min. *Soloists* 4 hr. 15 min. *Passengers* 20 min. *Test flights* 35 min. *Instruction with Flt. Lt. Thomson.*—Miss Home 1 hr. 10 min., Lt. Mandeville, R.N., 1 hr., Lt. Richardson, R.N., 40 min., Lt.-Cdr. Woodhouse 30 min., Lt. Lambe, R.N., 25 min., Messrs. Evans 55 min., Hancock 20 min., Boileau 25 min., Hall 15 min., Duggan 15 min., Mellor 5 min., Baynes 45 min., and Everett 5 min. *Joy-rides.—With Flt. Lt. Thomson*—Mrs. Hallier and Mr. Hallier. *With K. P. L. Bowen*—Mrs. Crook and Mr. Lovett. *With E. I. C. Wylie*—Mr. Herriot and Mr. Kirk. *With Mr. Fagan*—Miss Clapper and Mr. Rickards. *Soloists.*—Lt. Graham, R.N., Flg. Off. Southey, Messrs. Sanders Clark, Mellor, Fagan, Bowen, Wyllie, Wells and E. A. L. Parker.

At the request of several members a fund has been started for the purchase of another aeroplane, and if a rapid response is met with, it is probable that one of several available machines will be tendered for immediately.

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. G. Flemming, Filton Aerodrome, Patchway.]

Report for week ending Sept. 24.

Flying Time 14 hr. 55 min. *Instruction* 5 hr. 45 min. *Soloists* 1 hr. 20 min. *Passenger and Cross-country* 7 hr. 50 min. *Instruction.—With Mr. Bartlett*—Miss O. Miles, Miss H. Pitman, Messrs. H. H. Bromham, P. H. H. Bryan, A. H. Downes-Shaw, P. Pitman, J. H. Roberts. *Soloists under instruction.*—Messrs. A. H. Downes-Shaw, J. E. Tratman. *Passenger with Mr. Bartlett.*—Master A. Parish.

Our Chairman, Mr. A. H. Downes-Shaw, accompanied by Mr. Bartlett flew up to Liverpool on Saturday for the Merseyside Meeting.

We have had many acceptances for our opening day on Oct. 8. We hope that anyone who wishes to fly down to Bristol for this event and who want to stay the night in Bristol will communicate with the Secretary, who will be delighted to arrange accommodation.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Sept. 25.

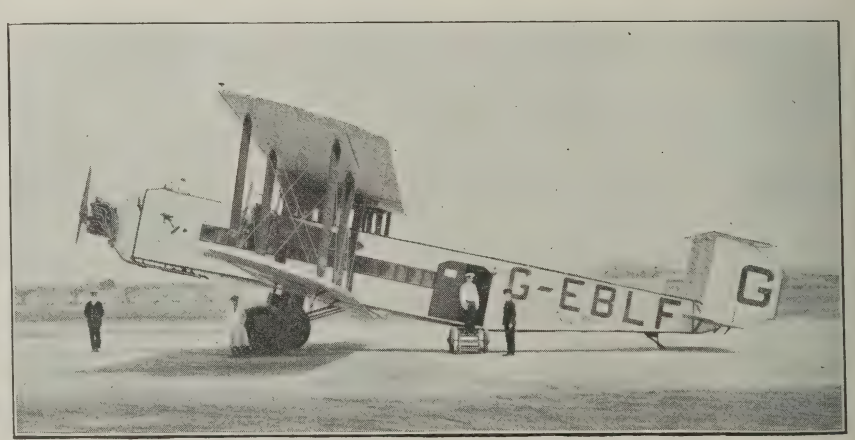
Flying Time 6 hr. 10 min. *Instruction.—With Mr. D. Carnegie*—Miss Creasy, N. Creasey, Dr. Sleigh, G. Hutley, S. Schofield, H. Billington. *With Mr. Comper*—R. Pettiward. *With Sjt. Lodell*—G. Hutley. *Passengers.*—S. Hutley, V. Bayles. *Solo.*—Courtney N. Prentice.

Flying has only been possible on two days this week. Several new members have been enrolled and three of our members have made excellent progress and are almost ready for solo.

FLYING CLUBS FOR CANADA.

A *Reuter* message from Ottawa dated Sept. 24 states :—

With a view to encouraging the development of aviation, especially of lighter aircraft, Colonel J. L. Ralston, Minister of National Defence, announces that the Government is to assist in the establishment of light aeroplane clubs in the larger centres of Canada. The Government will issue two aeroplanes to each approved club on the condition that the club provides for their maintenance, and also a field or seaplane station and instructor. Each year the Government may issue another aeroplane to each club that supplies similar aircraft itself.



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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 15; Tuesday, 19; Wednesday, 23; Thursday, 23; Friday, 23; Saturday, 32; Sunday, 17.

IMPERIAL AIRWAYS LTD. :
London—Paris—Zurich; London—Ostend—Brussels—Cologne; London—Rotterdam—Amsterdam—Berlin : Machines 61, passengers 544, freight 18 tons.

AIR UNION :
Paris—London : Machines 55, passengers 325, freight 10½ tons.

K.L.M. :
Amsterdam—Rotterdam—London : Machines 17, passengers 60, freight 2½ tons.

SABENA :
Brussels—London : Machines 7, passengers 24.

DEUTSCHE LUFTHANSA AG. :
Berlin—London : Machines 14, passengers 36.

PRIVATE :
Machines 1, passengers 1.

Total number of trips by British Machines, 62, carrying 545 passengers. Foreign Machines, 93, carrying 445.

COMPARATIVE FIGURES.

Week ending Sept. 25 :
Machines, 155; Passengers, 990; Crews, 288; Total personnel, 1,278.
Corresponding week, 1926 .
Machines, 103; Passengers, 572; Crews, 136; Total personnel, 708.
Corresponding week, 1925 :
Machines, 124; Passengers, 556; Crews, 163; Total personnel, 719.
Corresponding week, 1924 :
Machines, 110; Passengers, 481; Crews, 132; Total personnel, 613.
Corresponding week, 1923 :
Machines, 106; Passengers, 350; Crews, 162; Total personnel, 512.
Corresponding week, 1922 :
Machines, 106; Passengers, 321; Crews, 190; Total personnel, 511.
Corresponding week, 1921 :
Machines, 82; Passengers, 208; Crews, 105; Total personnel, 313.
Corresponding week, 1920 :
Machines, 108; Passengers, 175; Crews, 132; Total personnel, 307.

Croydon Notes.

Rumour—which one however believes to be as usual untrustworthy—says that the new aerodrome buildings are to be opened officially at some date within the next two months. Outward appearance suggests that the said new buildings are nearly ready, but there is really a good deal of work to be done before they can be put into service.

It is also said that the contract made by the Air Ministry for the erection of the new administrative offices provided that the contractor should only "rough finish" the work, and that in consequence when the contractor has finished his job, the Air Ministry Works and Buildings Department has to go over it and make the roofs watertight and so forth. Sounds a little curious, doesn't it?

Anyhow, the new wireless station buildings and the four masts for the aerials are now complete, though not of course equipped. The new wireless station is on the southern edge of Mitcham Common, just to the east of the level crossing over the Southern Railway at Beddington, and not as was once stated at the side of Purley Way. It will certainly be well away from the aerodrome here and can scarcely get in anyone's way.

Imperial Airways duly sent one of their "vast air liners" to Hooton Park aerodrome on Friday to take a part in the Liverpool Pageant. Incidentally they discovered a piano merchant in London who wished to deliver a piano to that part of the World on that particular day, and the piano therefore went by air.

One is not quite certain whether to congratulate the publicity staff of Imperial Airways, or of the piano merchant, or both—but the carriage of pianos by air seems to deserve notice as something a little out of the ordinary.

On the same day Imperial Airways conveyed to Paris a family which consisted apparently of father, mother, nurse and three infants, of whom the eldest was certainly not three years old. Any one who has travelled really long distances by train in the near neighbourhood of small infants will appreciate that there is a lot to be said for air transport when it is necessary to send very small children on long journeys. It gets what is at least a very unpleasant experience for all concerned over in the shortest possible time.

It is however questionable if the other passengers altogether approve.

Visitors to Croydon who have seen the arrival of incoming machines from Paris during this week have been puzzled by the strange garb worn by a certain section of the arriving passengers. The explanation is to be found in the presence in Paris of the American Legion, and of the fact that a considerable number of Legionaries have availed themselves of the Air Services to pay a short visit to London.

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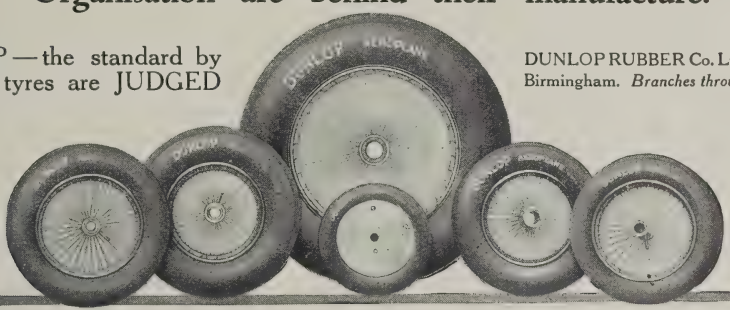
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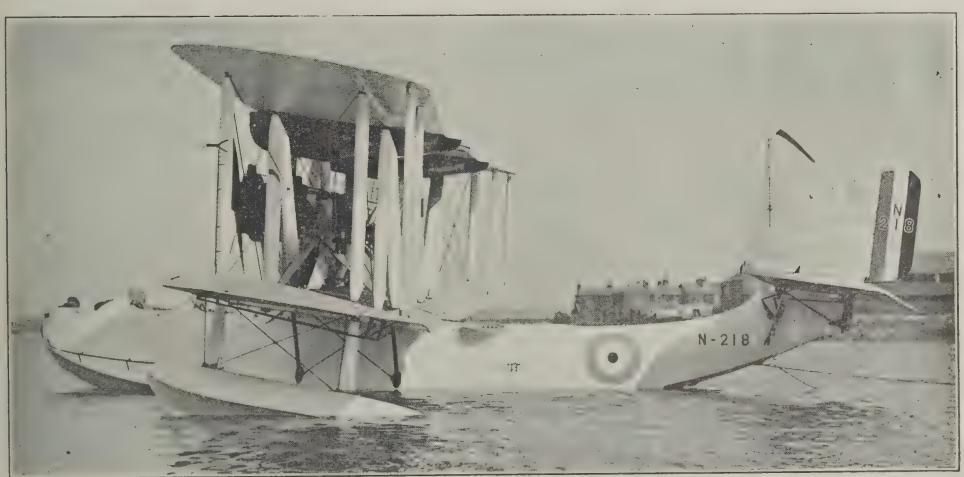
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THE SUPERMARINE AVIATION WORKS, LTD.

SOUTHAMPTON, ENG.

And as a matter of fact these visitors have very noticeably swollen the passenger traffic between the two cities. Both Imperial Airways and Air Union have had to run a number of specials to cope with the rush of Americans.

THE ROYAL AERONAUTICAL SOCIETY.

The amalgamation between the Royal Aeronautical Society and the Institution of Aeronautical Engineers will take effect on Oct. 1, 1927. From that date the *Journal of the Institution of Aeronautical Engineers* will cease as a separate publication and will be merged in the *Journal of the Aeronautical Society*. The amalgamation will be known as "The Royal Aeronautical Society with which is incorporated the Institution of Aeronautical Engineers" and the address will be 7, Albemarle Street, Piccadilly, W.1.

For the Autumn session of 1927 the Royal Aeronautical Society—with which the Institution of Aeronautical Engineers is now associated—have arranged the following programme of lectures. All meetings will be held at the rooms of the Royal Society of Arts, John Street, Adelphi, and except where otherwise noted at 6.30 p.m. :—

Oct. 6.—Mr. F. Handley-Page, C.B.E., F.R.Ae.S., "Aviation."

Oct. 13.—Sq. Ldr. T. H. England, D.S.C., A.F.C., "The Practical Side of Performance Testing of Aircraft."

Oct. 20.—Mr. M. L. Bramson, A.C.G.I., A.F.R.Ae.S., M.I.Ae.E., "Safety Devices for Aircraft."

Nov. 3.—Joint Meeting with the Institution of Automobile Engineers. Mr. H. B. Taylor, A.F.R.Ae.S., "High Speed Compression Ignition Engine Research." At 7.45 p.m.

Nov. 17.—Mr. R. K. Pierson, A.M.Inst.C.E., F.R.Ae.S., "The Use of the Wind Tunnel in the Prediction of Aeroplane Performance."

Nov. 24.—Maj. C. J. Stewart, O.B.E., M.I.Mech.E., F.R.Ae.S., M.I.A.E., "Modern Developments in Aircraft Instruments."

Dec. 1.—Maj. J. D. Rennie, A.R.T.C., A.M.Inst.C.E., F.R.Ae.S., "The Problem of the Long Range Flying-Boat."

Dec. 8.—Capt. F. Entwistle, B.Sc., "Fog."

Dec. 15.—Maj. F. A. Bumpus, "The Development of Torpedo-Carrying Aircraft."

NEW COMPANIES.

AERO HIRE LTD.—Private company. Registered Sept. 24. Capital, £1,000 in £1 shares. Objects: To establish, maintain and work lines of aeroplanes, seaplanes and taxiplanes and aerial conveyances, etc. The subscribers (each with one share) are: V. N. Dickinson, Durley, Palfrey Close, St. Albans, aeroplane pilot. Mrs. M. W. L. Dickinson, Durley, Palfrey Close, St. Albans.

V. Neville Dickinson is permanent managing director and chairman. Qualification: £10 shares. Remuneration: As fixed by the company. Solicitor: J. I. Jonas, 4, Lancaster Place, Strand, W.C.2. Registered office: 94, Old Broad Street, E.C.2.

CHARLIE BOWLING LTD.—Private company. Registered Sept. 23. Capital, £250 in £1 shares. To carry on the business of manufacturers and vendors of, agents for and dealers in vehicles, air and sea craft, motor-cars, vans, lorries and cycles, etc. The subscribers (each with one share are: G. S. Binsted, "Ripplevale," Rectory Road, Broadstairs, clerk. W. McEwen, 50, Hopedale Road, Charlton, S.E.7, clerk. G. E. Binsted signs as director. Remuneration as fixed by the company. Registered office: 317, High Holborn, W.C.1.

BRITISH AIRSHIPS.—British Airships Limited was registered as a "private" company on Sept. 19, with a nominal capital of £2,000 in 1,750 ordinary "A" shares of £1 each and 5,000 ordinary "B" shares of 1s. each. The objects are to carry on in the U.K. and elsewhere researches with a view to evolving and preparing designs of airships, aerial conveyances and aircraft of all kinds and the component parts thereof, etc. The subscribers (each with one "B" share) are:—H. Hess, 19, Devereux Court, Strand, W.C.2, Attorney at Law and Notary Public Supreme Court, South Africa. Dora L. Cantle, 5, Eland Road, S.W.11, secretary.

The first directors (to number not less than two nor more than five) are to be appointed by the subscribers. Qualification: One share. Remuneration: As fixed by the company. Secretary: H. C. Jauer. Solicitors: Wildey, Wright and Co., Grecian Chambers, 19, Devereux Court, W.C.2. The registered office is at 21, Northumberland Avenue, W.C.2.

PERSONAL NOTICES.

DEATH.

KELLY.—On Sept. 24, at Duxford, Cambridgeshire, as the result of a collison in the air, Sjt. Walter James Kelly, of Station Road, Easington Colliery, Co. Durham, and No. 111 (Fighter) Squadron, R.A.F.

FORTHCOMING MARRIAGES.

RUSSELL—KINGDON.—The marriage arranged between Flt. Lt. B. H. C. Russell, R.A.F., eldest son of Mr. and Mrs. Russell, of Barnet, and Elizabeth Mary, youngest daughter of the Rev. and Mrs. H. Napier Kingdon, of Springfield, Stockbridge, will take place at Bombay in December.

WHELLOCK—CLARKSON.—The engagement is announced between Capel Stanley Whellock, Flg. Off., R.A.F., eldest son of Mr. and Mrs. Percy Whellock, of Old Southgate, London, and Edith Maud, youngest daughter of Mr. and Mrs. H. W. Clarkson, of Lincoln's Inn, London, and Heacham, Norfolk.

BIRTHS.

HARRIS.—On Sept. 19, at Ashby Old Rectory, Somerleyton, Suffolk, to Enid (*née* Campion), wife of Flt. Lt. S. B. Harris, D.F.C., A.F.C., R.A.F.—a daughter.

MACKWORTH.—On Sept. 2, at The Golf House, Winchester Road, Andover, to June, wife of Flt. Lt. P. H. Mackworth, D.F.C.—a son.

VERNON-EVANS.—On Sept. 20, to the late S. Vernon-Evans, R.A.F., and Mrs. Vernon-Evans (*née* Primrose-Pechy)—the gift of a son.

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THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Grey

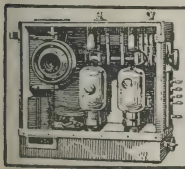
Vol. XXXIII. No. 14. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"BOUND WITH TRIUMPHANT GARLANDS WILL I COME."

(SHAKSPEARE—*Richard III.*)



GROOMING THE WINNER:—The Supermarine S.5 (Napier Lion) outside her shed at Sant' Andrea, having the final touches put to her before setting out to victory on Sept. 26



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Longest Light-Plane non-stop Flight.

Mr. Bert Hinkler, flying his "Cirrus Avian" on August 27th, accomplished a non-stop flight of 1,200 miles from Croydon to Riga, Latvia, in 10¾ hours. His average speed was over 100 miles per hour and petrol consumption was 30 miles per gallon.

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OCT. 5, 1927.

THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 14.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s.
Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8s.
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ON THE SCHNEIDER TROPHY VICTORY.

So we have won the Schneider Trophy at last! And the monument which was so familiar in the hall of the Royal Aero Club from 1914 to 1919, and from 1922 till it went to America in 1923, will again be returned to our keeping.

All honour is due to those who have brought it back. The pilots who flew the machines; the Supermarine and Gloster Companies who built them; the Napier Company who made the engines; the officers and officials of the Air Ministry who looked after the technical equipment; the senior officers in charge of the team; the airmen of the R.A.F. who looked after their needs; the officers and men of the Navy who handled their transport; and lastly, but by no means least, those members of the Air Council who fought so hard against a parsimonious Treasury to get sanction for the expenditure which has now been so thoroughly justified. All deserve the thanks of the Nation for thus restoring our prestige all over the World.

Our victory in the Schneider Trophy Contest definitely stamps British aircraft as the best in the World. Even in our worst times all foreign nations have freely admitted that our material and workmanship has been far ahead of that of any other nation. In certain classes of aircraft, as was duly set forth in detail in this paper last week, we are admittedly ahead of other nations. But hitherto we have been regarded as of no particular account where sheer speed has been concerned.

Now, thanks primarily to the Napier engine, we have demonstrated beyond argument that we can beat the World in a speed contest as in everything else. If the Supermarine or Gloster firm had produced one solitary machine which had beaten the World's Seaplane Speed Record over one lap we should have done well enough. But we have produced a seaplane which, over a course of 350 kilometres in none too favourable weather, has actually beaten the World's absolute Speed Record for machines with wheels made over the regulation four runs in opposite directions over a three-kilometre straight course. And the over-all time of our second machine shows that on the straight it was travelling faster than the official Speed Record.

Moreover we have not yet reached the top speeds of these particular machines,—apart from the fact that their designer now knows how he can get somewhere between 20 and 30 miles an hour more out of a re-designed version of them. Thus we may now begin to look forward to a speed of 350 miles per hour with at least as much confidence as we looked forward to 200 miles an hour eight or nine years ago.

Our Gallant Competitors.

But everyone concerned with the winning of this much desired Trophy wishes most heartily that we could have won it in a way which would have brought less grievous disappointment to our gallant and sportsmanlike competitors of the Italian *Regia Aeronautica*, the Italian Royal Air Force, which, alone among the flying Services of the Great Powers, is, like our own, independent of the Army or Navy.

Certainly the colossal speed attained by all three of our machines proves that we deserved to win. And naturally, as Sir Philip Sassoon said in his graceful speech at the official Lunch on the Saturday before the race, we might be pardoned for hoping that the best man and the best machine might be British. But we all wished most sincerely that if we beat the Italians we might beat them by just sufficient a margin to win, while they at the same time might beat all the existing speed records. We should have liked to see all the six competing machines beat the existing World's Speed Records while ours beat them by a little more than did the Italian machines.

As it is, our heartiest sympathy goes out to the *Regia Aeronautica*. Two of the machines on which it had staked its hopes and based its pride were brought down by breakages in their engines. And the third, after putting up a very fine performance for several laps, had to give up through the failure of the installation of one of the engines which actually won the Trophy last year.

The Macchi firm at any rate has nothing with which to reproach itself. The machines can certainly be improved. But so can our own. And in any case they were quite good enough to have beaten any aircraft in the world except our Supermarines and Glosters, if only their engines had been as good as ours.

To regular readers of The Aeroplane the result of the contest has not been a surprise. They knew some weeks ago that our machines were capable of approximately 300 miles per hour, and, allowing for cornering, the two Supermarines did just about that speed throughout the race. They also knew that the Italians had been having serious trouble with their Fiat engines. And that was what caused the utter downfall of the Italian team when they might only have lost the race by a matter of seconds.

Not only the *Regia Aeronautica* but all the other Italians concerned with aviation took their disaster in the finest possible sporting spirit. Naturally they were deeply distressed, but their congratulations to all the British visitors were sincere and hearty. And their admiration of the British machines and engines was expressed with unqualified enthusiasm. Italy is still the home of the artist-artisan, and the sheer beauty of line and workmanship of our machines impressed equally the highest Italian officers and the most humble Italian workmen who had to do with the competing machines.

On behalf of all British Aviation one offers to the *Regia Aeronautica* sincere sympathy in their ill fortune and wishes them better luck next time.

The Effect in Italy.

From Italian friends one learned that the mishaps to the Italian machines are likely to cause on the technical side of the *Regia Aeronautica* a re-organisation very similar to that which has been slowly taking place on the technical side of our own Air Ministry. But it will probably be done suddenly



THE VICTIMS OF MISFORTUNE.—The Macchi mono planes (Fiat engines) of the Italian Team moored out after the Navigation Tests.

and violently as a revolution, instead of gently but firmly as an evolution, as in our case. That is merely a matter of the difference between the Mediterranean and the Nordic temperaments.

In this England, one has been told on high official authority, it takes nine months to get rid of an incompetent official of any kind,—which seems an unduly long period of de-gestation. In the land where Mussolini rules any undesirable is "bumped" out of his job immediately. And one gathers that there is going to be a good deal of bumping in connection with technical aeronautics in Italy.

By order of *Il Duce*, as His Excellency Mussolini is almost always called in Italy, millions of lire have been spent on developing these latest Fiat aero-engines. And their history is somewhat interesting.

When the Macchi flying-boats competed for the Schneider Trophy in America in 1925 there was no Italian engine fit for the job. So the Macchi Company bought D.12 Curtisses. Having seen the new Curtiss racers Signor Macchi proceeded to build monoplanes on very similar lines, and the F.I.A.T. Company built a number of exact copies of the D.12,—even, it is said, to the extent of drilling in the crank-shafts three holes whose purpose they could not explain.

Whether the F.I.A.T. Co. increased its power or whether the Macchi monoplanes were merely much faster than the Curtiss biplanes, one cannot judge, but the Italian machines won. This year the F.I.A.T. company were left to themselves to develop the engine as seemed best to them. And evidently they have fallen down very badly in the effort.

In Italy their failure seems to be attributed to the fact that they have simply tried to get extra power by pushing up the compression of the engine and increasing its revolutions without doing enough research work to discover how to get the working parts to stand up to the increased stresses. The result has been that practically all their newest engines have broken down to such an extent that on the Friday before the Contest a damaged engine was taken out of the third machine of the Italian team and one of last year's winning engines was put into it, on the assumption that it at any rate would be reliable enough to complete the course.



THE VICTORS.—In the boat,—Air Vice-Marshal Scarlett, Flt. Lt. Kinkead, Flt. Lt. Webster, Lt.-Col. Mervyn O'Gorman, Flt. Lt. Worsley. On the bank, Flg. Off. Moon, Mr. St. John Plevins, Mr. H. T. Vane, Mr. Harold Perrin, Mrs. Wallace Barr, Mr. F. H. Jones, Flg. Off. Schofield and Mr. Wallace Barr.

Such confidence was apparently well placed, for the engine stood up for five laps and the machine was put out of action by the breaking of something along the line of petrol supply.

From the gossip which was going about one gathers that instead of handing out lire by the million to commercial firms for experimental purposes the *Regia Aeronautica* intends to establish a regular Research Department of its own, equipped as elaborately as it can possibly be. Hitherto apparently the Experimental Department of the *Regia Aeronautica* has not been on a very elaborate scale and most of the experimental money has been handed out to individual firms and the results, seemingly, have not justified themselves.

Italy's experience has been precisely opposite to our own. Our Government Experimental Department, the Royal Aircraft Establishment at Farnborough has been allowed to squander £400,000 (or roughly 35,000,000 lire) per annum for many years past, and has produced nothing. On the other hand, by continually promising that it is going to produce something, it has held up the development by private firms of many improvements which would have done much to save life and to increase fighting power in the Royal Air Force.

Evidently what is needed both here and in Italy is a small but highly efficient Experimental Establishment to act both as a check on uselessly extravagant experiments in the Trade and as a spur to initiative in the Trade. One hopes that Italy will learn from our experience of Government Establishments and will, under the driving power of *Il Duce*, produce a Royal Aircraft Establishment such as should be.

Next Year's Contest.

Now that we have got the Schneider Trophy the question arises as to what we are going to do about next year's Contest? That was the question which seemed to be most discussed among the English representatives in Venice immediately after we had won.

According to the rules the competitors must fly over the open sea. But also according to the rules the competing machines must do their navigation tests and alighting tests and mooring-out tests in the open sea. All these rules have now been broken.

When the contest was held at Cowes in 1923 the mooring and navigation tests were done in the sheltered anchorage at Cowes though the actual contest was flown over the open sea opposite Bournemouth. When the contest was held at Baltimore the flying was done over Chesapeake Bay, which, though open to the wind is not open to the ocean swell. At Venice the mooring and navigation tests were done inside the lagoon, and the machines got off from the lagoon though they actually flew over the open sea.

Therefore there seems every reason why we should hold the next contest over the Solent and Spithead. And obviously the R.A.F. Seaplane Station at Lee-on-Solent is by far the most suitable place at which to house the machines and for use as the Headquarters of the whole show.

Cowes is a pleasant enough place, but it is extremely awkward to reach. And Bournemouth has no possible advantages, besides having the disadvantage of being a very long way from London. Lee is very easy to reach by car, the coast line affords a splendid view for as many millions of people as care to go and see the flying, and from every point of view, except perhaps that of inconveniencing the personnel of the Air Station for a day or two, it is the best place we can offer for the purpose.

A Defeated Purpose and a New Object.

The original purpose of M. Jacques Schneider in presenting the Trophy has already been ignored. His notion was that the competition should help to develop high-speed seagoing aircraft. We have developed the high speed right enough, but we have entirely ignored seaworthiness.

None of these racing machines of any nation can stand anything of a sea. And the one thing which those connected with them either as pilots or constructors dread more than anything else is a smooth oily swell. A flat sea with a ripple on it and a smart sailing breeze is the ideal. It helps the machines to get off and makes the surface of the water easily visible when alighting, and the stiffer the breeze the slower the alighting speed. But the long swell of the open sea on a calm day, with perhaps 30 or 40 feet from crest to crest of each smooth-topped wave, would make the alighting of these high-speed craft a dangerous business.

Therefore we may as well ignore the open sea conditions altogether and admit honestly that what we are out for is pure speed. To fly speed races over water is actually much safer than flying them over land, for if an engine fails over water a pilot has a very good chance of getting down without hurting either himself or his machine, whereas over land



CELEBRITIES AT HOME. I.—Flt. Lt. Webster, Winner of the Schneider Trophy,—"The man who made Walsall famous."

his chances of getting down safely with a machine which lands at something over 100 miles an hour is very poor. In fact in the Pulitzer Trophy races in America the pilots all had instructions that if their engines failed they were to push the machines up as high as they would go on their own momentum and were then to come out with their parachutes and leave their machines to their fates.

The actual difference in speed between machines with wheels and machines with floats is surprisingly little,—in fact Mr. Mitchell, the designer of the winning Supermarines has said that the same machines with wheels would only be about five miles an hour faster. And when you come to think of it, if you draw a really good streamline round a wheel and its springing arrangements and its junction with the struts, you evolve a torpedo-shaped body not very much smaller than the floats of a seaplane.

Consequently in the best interests of aviation we may as well go on developing our enormous speeds with aeroplanes on floats. Or at any rate let us do so until such time as the development of wing design permits us to build an aeroplane which can fly at over 300 miles an hour and land on wheels at less than 60. That being so, then let us run next year's Schneider Trophy Contest over the enclosed water between Hampshire and the Isle of Wight and let us have Lee-on-Solent as the operating centre.

Our Treatment of Visitors.

Another problem which arises in connection with next year's race is how to do the thing properly in relation to our foreign visitors. The Royal Aero Club has always been notoriously slack about its treatment of distinguished strangers, though its own officials have always taken excellent care to have a good time themselves.

The Italians will certainly compete. *Il Duce* and his friend General Balbo will see that they do not take their defeat lying down.

Probably the Americans will do so. One was told semi-officially at Venice that neither the U.S. Naval Air Service or the U.S. Air Corps will enter next year. But now that America has become so air-minded there should be no difficulty at all in finding enough private capital in the States to build half-a-dozen machines for the job. And judging from what we all know of the Curtiss Company's re-



CELEBRITIES AT HOME. II.—Flt. Lt. Worsley, the only other competitor to finish the course.



THE COVETED PRIZE.—The Schneider Trophy (which is not a Cup), with Mr. H. T. Vane of the Napier Co., whose engines have twice brought it to this country.

search programme, as disclosed by Mr. C. M. Keys in his report on the Curtiss Company's activities of last year, and from the extraordinarily fine performances which have been put up by Chance Vought seaplanes during the past twelve months, there is every prospect of the Americans giving us another shock next year as they did in 1923.

Germany may also compete. Herr Heinkel, the leading German seaplane constructor, whose machines won the great German Seaplane Competition last year, told one in conversation at Venice that there is no engine in Germany which could be used for such machines. He said regretfully that the most powerful German engine, the B.M.W., is only 800 h.p. But 800 h.p., specially boosted for racing, gives more than enough power to win. And one is convinced that German engineers, if adequately financed, could within twelve months produce an aero engine quite capable of springing a surprise on the World equal to that given by the Mercédés car engines in 1914 when Lautenschlager and his team-mates finished first, second and third in the French Grand Prix.

There is even a possibility that France may stop being huffy with everybody else and may enter a team next year. With engines such as the Lorraine-Dietrich and Hispano-Suiza there should be no difficulty about the power plant, and the Bernard "Ferbois" which holds the World's Speed Record, albeit something more than twenty miles an hour slower than our seaplanes, has shown what a French designer can do in getting speed.

Parenthetically one may remark that the absence of French people from Venice was most noticeable. Except for M. Hirschauer, at once the French *Commissaire Sportif* on behalf of the *Fédération Aéronautique Internationale* and the representative of the Technical Section of the French Under-Secretariat for Air, and the ever-amiable and competent M. Henri Bouché of the leading French aviation paper *L'Aéronautique*, one did not see one single Frenchman at the Contest. This is rather surprising because neither we nor the Italians made any difficulty about allowing the accredited representatives of other nations to inspect the machines at close quarters. And one would quite have expected some of the French aircraft constructors to have sent representatives to look at the Italian and British machines in the hope of finding new ideas.

If we are going to have teams from two or three other countries, besides a number of foreign visitors from the Governments, the Services, the sporting Authorities, the Trade and the Press of other nations, we must organise some worthy entertainment for them.

The *Regia Aeronautica* did the thing very well at Venice. An enormous official lunch was given on the Saturday before the race and everybody who was officially connected with the affair was invited thereto. And all the staff-work of the Contest was beautifully done, so far as the *Regia Aeronautica* was concerned.

That seems actually to be the best form of official entertainment. A banquet cannot well be given on the night before the race, because without the competing pilots it would be without interest, and for the pilots' own sake they ought to be sent to bed early the night before their great undertaking.

A great banquet followed by a ball on the night of the race would certainly be the ideal entertainment, but the objection to it is that if any of the competing pilots were killed in the course of the race, as is always quite probable in any speed competition, all the edge would be taken off the enjoyment. We are a long way past the war-time spirit in which a man could see his best friend killed in front of his eyes and go and enjoy himself as usual in the evening, regarding it merely as all in the day's work. And we are still further away from those pioneer days when if a man were killed flying in a competition his memory was acclaimed as that of a national hero.

Far the best scheme is to have the official lunch the day before the race and then to have quite an impromptu cheery evening afterwards if all goes well. Possibly arrangements might be made by the Air Ministry or by the Aero Club, if they can raise the money, for all the teams and those immediately concerned, to dine together after the race, and then there might be an entirely unofficial dance and supper party afterwards.

At any rate, whatever happens, one hopes that the Air Ministry and the Royal Aero Club in collusion will provide for all our official and semi-official visitors in a manner worthy of the British Empire. They had better begin to collect the money at once.

Organising Another Victory.

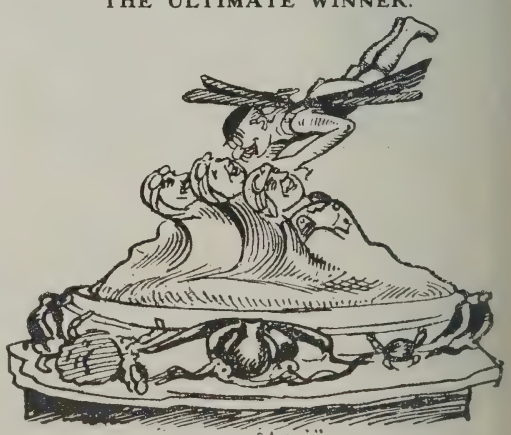
There remains for discussion the question of what we are going to do about actually winning the Trophy next year.

We have an unfortunate tendency in this country when we have done anything good, to sit back and assume that we have done the best that can be done, and that nobody else can do any better, instead of realising the plain cold fact that we have merely set a standard for somebody else to beat. So we must guard against that tendency.

Fortunately the designers and constructors of the two machines which represented us at Venice realise that they can improve their machines. And, though the Napier engine has now proved itself to be the finest speed engine in the World, as well as being one of the most reliable engines for mere commercial use, the probability is that the Napier design staff equally see where they can improve their engines.

At Venice after the race a personage who is very well known in British Aviation pulled one up rather short for saying that there was an obvious ten miles an hour more to be got out of either the Gloster or the Supermarine. He asked whether one imagined that one could discover by eye things which had not been discovered by all our research people who had been working on wind tunnel experiments for about two years to get perfect shapes for the machines. One's reply was simply that unlike the Americans we have not got compressed-air wind-tunnels in which to do our experiments.

THE ULTIMATE WINNER.



THE KISS OF VICTORY.

By Strube.

(Reproduced by courtesy of "The Daily Express.")

NOTE.—In the end it is the British Taxpayer who pays—and wins.

Great Britain's Air Triumph achieved with Napier engines!

"All Napier engines in the race were entirely beyond reproach."
"Flight," 29/9/27.

The winning of the International Schneider trophy by Great Britain—the fastest Air Race in the World—proved a remarkable triumph for the Napier engine.

Only two machines—both British—completed this strenuous race, the result being:

1st. Flight-Lieut. S. N. Webster, A.F.C., flying a Supermarine-Napier S.5. Speed—**281.669 m.p.h.**

2nd. Flight-Lieut. O. E. Worsley, flying a Supermarine-Napier S.5. Speed—**273.088 m.p.h.**

easily beating all speed records.

Both machines maintaining these amazing speeds were fitted with Napier engines.

Over and over again have Napier engines proved their outstanding power, efficiency and reliability.

All the successful long distance Royal Air Force flights have been accomplished with Napier engines.

For Naval, Military, Commercial or Racing purposes, to obtain the best results and greatest reliability install the—

NAPIER

The finest aero engine in the World.

'Phone: Chiswick 1220.

D. NAPIER & SON, LTD.,
Acton, London, W.3.

'Grams: Moneyer, Act, London.

If any of our scientists want to know what a high-pressure wind-tunnel is like they can find an excellent description of it in *Aviation*, the leading American air paper, dated Sept. 12.

As a matter of fact we do not even own a reasonably high-speed wind-tunnel. Therefore our wind-tunnel experiments although perhaps helpful cannot be trusted. For a streamline or wing-curve which may be very good at 100 miles an hour may be very bad at 300 miles an hour.

As one pointed out in this paper three years ago, on returning form the States, the National Advisory Committee for Aeronautics in America discovered in a wind tunnel run at a pressure of three atmospheres that at these very high speeds the air in front of the different parts of the machine becomes so compressed that to get the best results it has to be cut with a knife edge, and that consequently cutting edges on wings, tail-planes, fins and struts are even more important than are fine trailing edges.

The Curtiss people knew it even when America took the Trophy away from us in 1923. The Macchi people learned it when they designed their winning machine in 1926. And the figures for this year's race confirm it.

Some Points to Note.

Now that we have won the Schneider Trophy one is perhaps at liberty to make a few critical remarks about our machines.

The winning Supermarines are probably nearer to being a perfect shape than any aeroplanes yet produced. They have that quite flat back and that clean run under the fuselage from nose to tail which is essential to high speed,—barring the junction of the undercarriage struts with the bottom of the fuselage, which cannot be helped. And even at that point there is the least possible obstruction to the flow of the air.

But the leading edges all over the machine are such as would be produced by wind-tunnel experiments at the low speeds which are the highest that we can reach at present in our wind-tunnels. With cutting edges everywhere the speed would probably go up quite a lot.

Another criticism came from Colonel Virginius Clark, late of the Consolidated Aircraft Corporation and one of the most competent American aircraft designers. He expressed the opinion that if the fuselage and floats were built with flush rivets instead of snap-head rivets the reduction in skin friction would also give a good few miles an hour.

The Gloster, on the other hand, has cutting edges all over. But the leading pair of float-struts and the wing-roots of the lower wings are so arranged that they must cause a horrible air-jam at just about the most critical point in the under side of the fuselage. Also the fuselage itself is very fat compared with the Supermarine, and so has a bigger area to push through the air. Besides which the top of the fuselage curves downwards to the tail in a way which may give it a perfect streamline in a wind-tunnel but is certainly wrong for a flying machine. And, lastly, having half the fin and half the rudder below the fuselage, though it makes a symmetrical cruciform tail, ruins that cleanness of the underside of the fuselage which means so much at high speeds.

The actual figures in the contest prove that these views are right. When one got to Venice one found to one's surprise that the pilots of the teams themselves thought that the Gloster with the geared Napier engine was quite as fast as the Supermarine with the geared Napier, and agreed that the Supermarine with the direct-drive Napier was slower than either. In the race Flt. Lt. Kinkead was taking his corners closer than either of the Supermarine pilots, and in comparison with the direct-drive Supermarine was picking up a couple of hundred yards on the sharp corners of the course. Yet the actual figures show that the machine was between eight and nine miles an hour slower than the geared Supermarine and had just about the same speed as the ungeared Supermarine.

When one saw the machines at Calshot one said that judging purely on its shape the Gloster ought to be fifteen or twenty miles an hour slower than the Supermarine with the same engine. But thanks to its cutting edges and to closer cornering by its pilot, and thanks to the absence of cutting edges on the Supermarine, and possibly also owing to some loss because of the projecting heads of the rivets as compared with the absolutely smooth fuselage of the Gloster the speeds were more nearly equal than they should have been.

One hopes that the designers and constructors of these two excellent aircraft will take these suggestions in the right spirit. Both their machines are so much better than any yet produced in any other country that these remarks can do them no harm. Lookers-on see most of the game, and there is that old proverb about wisdom from the mouths of babes and sucklings. One does not profess to be anything of an aerodynamic scientist but one does want to see England win the race again next year. And so one offers these remarks in the hope that they may be helpful.

One hopes to see both machines sent out for speed records over the regulation four runs to-and-fro on a three-kilometre timed course. Then we shall know definitely the difference between them. And we shall be able to claim the World's Speed Record.

A Matter of Finance.

Whether the Air Ministry will finance our effort to win the Trophy next year or not has still to be decided. Possibly the immediate result of official support this year will soften the hearts of the Treasury who may perhaps be convinced that besides learning from these speed machines knowledge which will be of use in designing future fighting machines for the Air Force the prestige and publicity which we have won by our victory may so put up the sales of British aircraft abroad as to increase materially the figures for aircraft exports in years to come, with consequent gain to the Treasury in Corporation Tax and Income Tax.

From the purely sporting point of view one would much rather see the machines built at the expense of individual sportsmen and flown by their own pilots. After all, the building and flying of the winning Supermarine cannot have cost any more than the buying and training and running of *Hot Night*, second in the Derby and second in the Leger, cost Sir Victor Sassoon, who was, in the early days of flying, when he was known as Mr. E. V. Sassoon, one of the most valued supporters of aviation at Brooklands, and the owner of several aeroplanes and the financier of a number of valuable experiments,—(and, incidentally, the founder of The Aeroplane newspaper).

Some day perhaps the winning of the Schneider Trophy may be as great a social achievement for a wealthy Englishman as is the winning of the Derby to-day. And the designing and building of Schneider winners may be regarded as being quite as valuable to the Nation in improving the breed of aircraft as improving the breed of English horses has been in past centuries.

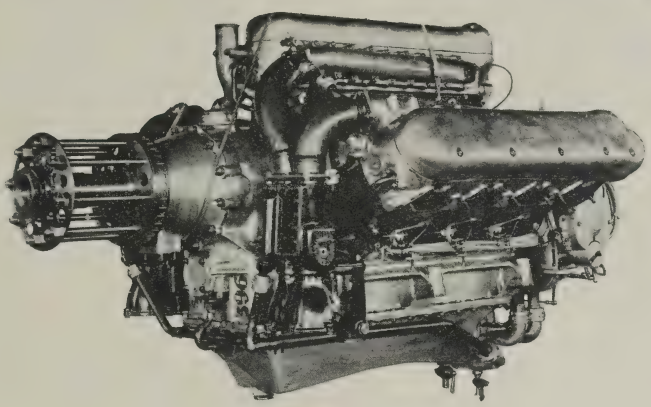
That time has not yet come. When it does it will supply that competition which is so much better for trade than is Government spoon-feeding. But in the meantime let us win the Trophy with Government help if we cannot win it otherwise. At any rate those who have won the Schneider Trophy this year,—pilots, designers, constructors, mechanics and everybody,—deserve the thanks not only of the Aircraft Industry but of the whole British Nation.

That genius of a cartoonist, Strube, of *The Daily Express*, has expressed truly what the poor down-trodden little British taxpayer thinks about it all. And it is the taxpayer who has made the victory possible, by finding the money to pay for the machines. But, in the long run, the taxpayer himself will win, if only the Trade will grasp its opportunity and will bring to this country the profits of foreign markets now opened by this great advertisement.—C. G. G.



OUTWARD BOUND.—The Supermarine S.5 (Direct-drive Napier), which Flt. Lt. Worsley flew, being towed out to the start just before the race. —("*Aeroplane*" *photograph.*)

Valves for Aircraft Engines



By Courtesy of Messrs. D. Napier & Sons, Ltd.

EXHAUST VALVES

of the NAPIER "LION" engines fitted in the SUPERMARINE seaplanes

WHICH WON THE SCHNEIDER TROPHY

were made of

HADFIELDS ERA TRADE ATV MARK STEEL

This steel possesses the maximum endurance under stress at high temperatures.

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EAST HECLA AND HECLA WORKS.

THE SCHNEIDER TROPHY CONTEST.

No man can serve two masters, and in describing an event such as the Schneider Trophy Competition one is faced with the difficulty of trying to please two distinct classes of readers, firstly those who want as full a story as possible of everything that happened, with all the gossip and all the fun of the fair, and secondly those who, as they merely want a description of the race itself, want one to "cut the cackle and come to the hosses." Therefore, as experience has taught one that the first class is the larger, one recommends this second class of reader to skip the next few pages of THE AEROPLANE and start on page 472 under "The Contest for the Trophy." What follows immediately hereafter is for the benefit of those who want to know all about everything that happened.

Being, like Martha, cumbered with much serving in the office of THE AEROPLANE, one was unable to go to Venice till a day or two before the race was billed to take place, so Mr. Leonard Bridgman, ever ready to sacrifice himself in a good cause, volunteered to go there several days ahead and keep an eye on the preliminary affairs.

General Balbo, Italy's notable Under-Secretary for Air, had done THE AEROPLANE the honour of sending one a personal invitation to Italy in the name of His Excellency Mussolini, and General Guidoni, Italy's capable Air Attaché in London, had kindly provided both of us with letters vouching for our being well affected towards the Italian Government, so we had no anxiety about being held up on the way by over-zealous officials, despite the stories which are so prevalent concerning the "Prussianisation" of Italy under the new régime.

As a matter of fact, what one did find was that there has been a marked improvement throughout the country as the result of this so-called Prussianisation. Everything which is run officially is ten times as efficient as it was six or seven years ago. Trains run to time, Customs officials get along with their jobs, and the whole country has an appearance of businesslike prosperity which it certainly never had before. And the people are just as cheerful and good-natured as they have always been. In some ways there is still a good deal for the Mussolini Régime to do. But what has been done in a few years is truly remarkable.

[*Here Mr. Bridgman takes up the tale.*]

At the Sign of the Blue Lagoon.

Uttering the famous battle-cry of the *Pericoloso Sporghesi* one exuded from the Simplon Tunnel into the land of the Coppa Schneider full of faith, hope and, for the purposes of charity, a surfeit of diminutive coins of infinitesimal value.

After an exhausting journey across the plains of Lombardy wherein one gradually got hotter and hotter it was hoped that on arrival all dull care, and incidentally all dull weather, would be left behind. How such a touching faith came to be rudely exploded, will, one fears, be exposed in this effusion written, as it is, seated within the confines of a species of mosquito-proof shroud in a temperature of flemmed unpleasant stickiness on one of the most notorious pirate strongholds known to modern man.

Venice itself is a wonderful city, but in a moment of folly one permitted oneself to be housed on a littoral known as the Lido. For Venice one has nothing but profound admiration. Six-wheeled 'buses and pneumatic drills are unknown, but if one steps off the curb inadvertently one is precipitated into the dark romantic waters of the open sewer system.

As has not been said before, one arrived at Venice at 16.35 hours on Sept. 19, to complete the journey to the Hotel Excelsior (pronounced with a considerable slur on the middle syllable) across the lagoon in a motor boat. Here several of the aforesaid coins were dispensed (not for charity, be it known) nevertheless considerable delay was caused by the circus clown efforts of the crew or whatnot of the boat because one of them had proof of having parted with "X" and a half tickets, but all search for the odd half passenger failed to bring this human curiosity to light.

En route for the Lido one had the first view of one of the new Macchi 52's which was undergoing its first public test flight. One could hardly say it was "hovering," as was said of one of our own machines at Cowes.

On arrival at the hotel one was overcome by a rumour-laden atmosphere punctuated by glimpses of various high personages of the Aero Club and Aircraft Industry arrayed as for bed or bath.

On the Wednesday an opportunity was seized of visiting the S. Andrea Air Station where both the British and Italian teams were housed. S. Andrea is situated on an island of the same name some twenty minutes by motor boat to the north of the Excelsior Hotel.

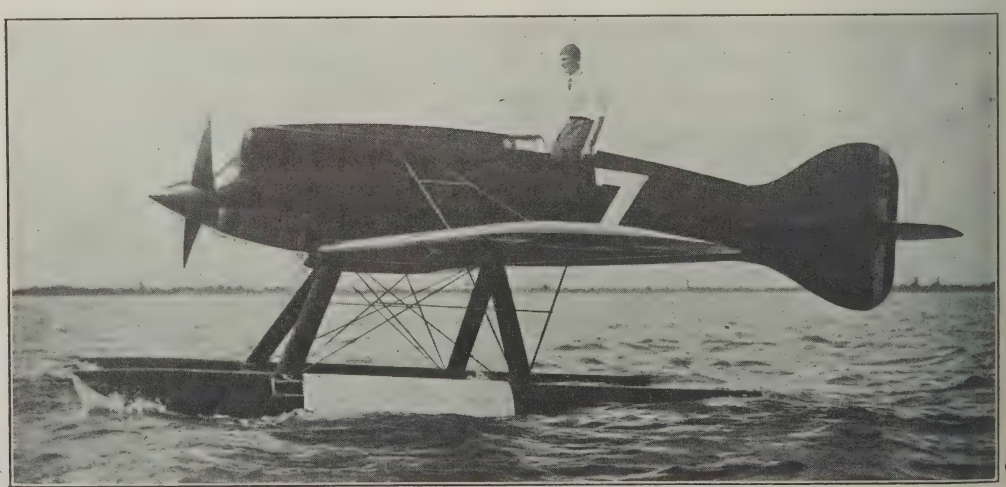
The station is in the form of a deep "U" with a canal running up the centre. On either side of the canal are a series of large concrete hangars each with its separate slipway. There is also a full-sized football field complete with concrete seats all round and at the head of the canal are situated the administrative offices, mess buildings, etc.

On one side of the canal two sheds were placed at the disposal of the R.A.F. team, and, directly opposite on the other side of the canal, was the Italian team's accommodation. One of the two British sheds was occupied by the three Supermarine S.5s and the other by the two Gloster IVs and the practice Flycatcher, and the scene presented on stepping blithely ashore was one of hive-like activity. Everyone from top to bottom was putting the best into their work and in spite of the wild rumours set in motion owing to the extreme secrecy maintained by the Italians concerning their three M.52s, there was no pessimism anywhere.

It is related, apropos the usual borrowing that always shows the true team spirit, that after a certain interchange of material had taken place a representative of one firm said to the borrower—"What have you come out here to race with—four buckets and two watering cans?"

The station of S. Andrea is situated within the lagoon and the entrance to the station faces the main channel for shipping approaching Venice. The lagoon at this particular spot is fairly congested so that it was necessary for all the racing machines to be towed from the station to a suitable piece of water to the north of the main entrance of the harbour. This procedure caused a considerable waste of time before machines could be got away.

The British machines were towed by motor-boat on their own floats, but the Italian team had provided themselves with three rafts on which the M.52s were towed by a tug. This latter method, although more complicated, as it entailed getting the machines on the raft, being tied down securely, taken



A VICTIM OF MISCHANCE.—Major Ferrarin, on one of the Macchi monoplanes.
(Photograph by courtesy of Sig. Guido Matteoli, of "L'Aviazione.")

MOTH

CIRRUS ENGINE

THE

YORKSHIRE

AIR PAGEANT

Sherburn-in-Elmet

October 1st, 1927.

PRESIDENT'S LIGHT AEROPLANE HANDICAP.

1st MOTH — NOTTINGHAM AERO CLUB. Mr. Bernard Martin.

3rd MOTH — LONDON AEROPLANE CLUB. Capt. F. G. M. Sparks.

PRIVATE OWNERS' HANDICAP.

3rd MOTH — Miss S. O'Brien.

The first light aeroplane to cross the line.
4th and 5th places were also secured by MOTHS.

OPEN HANDICAP.

4th MOTH — Capt. T. Neville Stack

The first light aeroplane to cross the line.
5th and 6th places were also secured by MOTHS.

LADIES' HANDICAP.

1st MOTH — YORKSHIRE AEROPLANE CLUB. Miss Woodhead.

2nd MOTH — Miss S. O'Brien.

3rd MOTH — NEWCASTLE AERO CLUB. Miss Leathart.

THE WATTLE HANDICAP.

2nd MOTH — NEWCASTLE AERO CLUB. Capt. J. D. Parkinson.

The first light aeroplane to cross the line.

Designed and manufactured by
THE DE HAVILLAND AIRCRAFT CO., LIMITED,
Stag Lane Aerodrome, Edgware.
Telephone: COLINDALE 6160. *Telegrams:* "HAVILLAND, EDGWARE"

in tow by a tug out to the predetermined spot and then untied and floated off, it did permit all the necessary implements being taken all on the one raft and allowed the engines to be started up before being floated off, without the crew having to disport themselves in the water like porpoises. The British method made it necessary for several boats to be in attendance and for all the handling party to be in bathing kit.

On the Wednesday Flt Lt. Kinkead took up the Gloster IVb with the geared engine for a final test in readiness for the navigability trials. After flying round for half an hour or so the nose of the spinner came adrift. On alighting the machine was given a cursory examination and everything appeared to be in order. Next morning however, it was found that when the spinner came off it had struck one of the airscrew blades and damaged the splines on the airscrew shaft.

This news, received at the Excelsior at about 11.30 hours, that is some six hours before all machines had to be sealed in readiness for the navigability trials on the following morning, struck consternation into the hearts of many.

While this news was being digested Flt. Lts. Webster and Worsley were "hovering" round on the two Supermarine S.5s and it was being rumoured that in the event of the Gloster IVb being *hors de combat* the Gloster IVa with the direct-drive engine would be substituted, with Sq. Ldr. Slatter as pilot.

All this time one had heard that the Italian team were not at all happy about their engines. Lieut. Ferrarin went up for a test flight on Thursday morning but was forced to alight after a short flight. One then heard that his new A.S.3 engine was to be replaced by one of last year's A.S.2s.

In the meantime the Lido's hotels were giving their inimitable imitation of the spider's parlour of our childhood days. As the day of the race grew closer so it became fuller and fuller of poor innocent flies. Even the particularly virulent brand of mosquito common to the neighbourhood couldn't compete with the blood-sucking propensities of the human inhabitants of the Lido.

On the Friday the navigability and mooring-out tests took place. By midday all the three British machines had apparently conformed to the rules and regulations and were safely tied up to their buoys. One said apparently, because it was later learned that Flt. Lt. Webster had failed to taxi over the prescribed amount of water and the *Commission Sportif* required him to do it again. The interest in the Coppa Schneider throughout Italy was graphically shown by the influx of visitors into Venice. The Italian State Railways ran excursions at half fares from all over the country and it was estimated that on the Saturday night over 300,000 visitors were in Venice many without accommodation of any kind for the night. To relieve the congestion in Venice, hundreds were being sent over to the Lido, where they were left to fend for themselves.

There the wonderful organisation which had roused the whole of Italy fell through. When once the people were attracted to Venice the local pirates raised all their prices and food and accommodation became as scarce as sunshine in England.

On the Sunday morning in spite of the obviously unfavourable conditions thousands of people crowded into the Excelsior Hotel. Owing to the strong wind all windows and doors were shut tight, and the atmosphere within the hotel had to be experienced to be appreciated. The most amazing thing concerning the hotel was that mere residents who had booked rooms long ahead of the day of the race and were submitting themselves innocently to the financial inquisition in the hope of being allowed to view the race in comparative comfort from the front of the hotel, were treated with complete disdain and were regarded as being merely poor mutts who had to pay through the nose anyhow whether they saw the race or not.

The actual terrace of the hotel was barricaded off from the hotel and this was thrown open to almost anybody who could acquire the right coloured tickets or bluff successfully. A large percentage of this crowd brought their own nosebags and littered the terrace with paper bags, broken glass, etc., in the time-honoured Hampstead fashion.

When it was at last learned that the race was postponed and most of the crowds had dispersed the barricades were temporarily removed and the hotel residents were graciously permitted to gain access to the hotel terrace.

[*Here L. B. hands over to C. C. G.*]

The Ways to Venice.

There are various ways of getting to Venice. If you happen to be an affluent aircraft manufacturer you travel by the Golden Arrow to Paris and thence you take a complete waggon-bed to yourself all the way to Venice on the Orient Express. If you happen to be a Moth-owner or a millionaire you fly there either as your own pilot or with a hireling taxi-driver. But if you happen to be a mere hard-working newspaper person you get there by the shortest and cheapest way, which is by a through coach of the Italian State Railways from Cologne to Venice by way of Basel and Luzern.

This route has the advantage of giving you the least possible distance on those dangerous French railways and the greatest possible distance on those quite perfect Swiss railways with their electric haulers, their magnificent roadbeds, their cheap and luxurious Swiss-owned restaurant cars and their charming personnel who have acquired to perfection the art of service without servility.

Of the Italian through coach the less said the better. Now that His Excellency Mussolini and our good friend General Balbo have made the *Regia Aeronautica* about the finest Air Force in the World (next to our own) and now that the Italian railways have learned to run punctually and efficiently His Excellency might devote five minutes to issuing an order that for the honour of Italy the Italian through coaches in foreign countries shall be at least up to the standard of the best rolling-stock in those countries.

This particular through coach, like another Italian coach which one had the misfortune to strike on the Lötschberg Tunnel route last January, is a disgrace to Italy. The seats are high, narrow and uncomfortably upholstered in a horrible red plush. The lighting is very poor and the whole coach is smelly and insanitary. There is no hot water, no soap and no towel in the lavatory, which is in arrangement merely an open sewer. Nobody in France or Switzerland who got into the coach by accident would ever want to go to Italy.

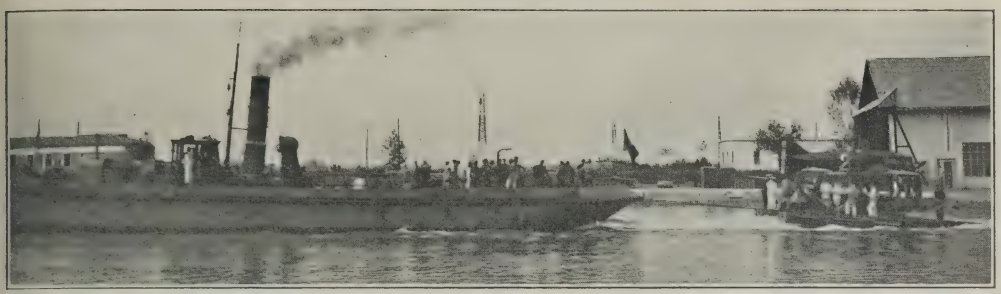
One's companion on the journey was a certain Major Eustace Moyes, formerly an R.N.A.S. airship commander and more lately a Major R.A.F., whose particular interest in the Schneider Trophy is the fact that during the years while it reposed in the hall of the Royal Aero Club its projecting pinions made for him a handy hat-rack. His particular brand of humour coupled with the reminiscences of one Bunny Aten and a certain Ayling at any rate saved one from assassinating any fellow-passenger on the journey.

The Pirates' Lair.

We arrived at Venice remarkably punctually and promptly



THE FIRST AWAY.—The Gloster-Napier taking the water and being taken in tow by its motor-boat on Sept. 26. Sq. Ldr. Slatter is seen watching the proceedings.—(*"Aeroplane" photograph.*)



OUR FIRST COMPETITOR.—Major de Bernardi's Macchi being towed to the starting point on Sept. 26.
("Aeroplane" photograph.)

realised that Venice began life as a lair of pirates. The original pirates as they grew rich became respectable, and their rich descendants degenerated into merchant princes. But their humbler descendants inherit their characteristics.

The Venetian gondolier to-day is no longer a multi-coloured picturesque character with an artistic handkerchief round his head. He generally wears dirty flannel trousers, still dirtier sand-shoes, any old shirt, and a cap which apparently began life at Mr. Dunn's for half-a-crown. But he has the old trick of the London cabman of taking the ignorant stranger round sixteen blocks of houses to get him next door to where he started.

However, thanks to the ubiquitous Mr. Cook, we escaped the clutches of these minor pirates and were guided to a motor-boat which took one hour to think about starting for the Lido, which is in these days the home of the major Venetian pirates. These Venetian motor-boats are quite the most terrifying form of conveyance. They generally have about half an inch play in their tail-shafts or crank-shafts, they carry no oars, no lifebuoys, no fire extinguishers, and for preference they cruise with a can of oil leaning against a red-hot exhaust pipe inside the boat, or else they forget all about the oil and sieze-up their engines in mid-Channel, to drift hopelessly till some friendly boat of the same breed takes them in tow. One can have many maritime emotions in the 20-minute run to the Lido.

The Lido itself is a long island which forms a kind of reef between Venice and the open Adriatic,—as shown in the perspective sketch. Before it was advertised and vulgarised it must have been rather a nice place for those who want sea and sand and nothing else. There is no scenery of any kind, as there is along the Italian and French Riviera. And barring Venice there is nowhere to go for amusement.

As to the beaches themselves,—presumably most of the readers of The Aeroplane have been through Margate, though one would not suggest that any of them have ever stayed there,—so one can best describe the said beaches as being Margate beach on a Bank Holiday populated by people none of whom has less than £3,000 a year and all of whom are considerably more vulgar than the ordinary Margate tripper. They are vulgar with that pervading and penetrating vulgarity which only undeserved wealth can give. At this particular time the height of the Lido season was past but there were enough of the usual patrons of the place about to give one a fair idea of how nauseating it must be at its worst.

Headquarters.

The Hotel Excelsior at which the British Schneider Team and most of the British Aircraft Industry had their headquarters is quite a good hotel. It has a marvellous concierge with a beautiful beard, and two good waiters. Being the end of the season apparently the rest of the regular staff of the hotel had dispersed to their usual Autumn and Winter employments. This probably accounts for the fact that the service of the hotel was entirely chaotic.

Seemingly the kitchen staff had also departed for, except when the *Regia Aeronautica* gave its official lunch, the food was remarkably poor, despite the fact that the prices would have shocked the Carlton or the Ritz. Probably the people who make a habit of going to the Lido pay them as part of the price for appearing grotesquely clad, or unclad, in the illustrated papers which pander to such people. As to the lack of clothing, the best impression of it may be conveyed by the remark of an Englishman who said that never again would he be able to behold a pork-butcher's shop without thinking of the Lido. The more gross the individual the scantier is his or her clothing.

The moment one arrived at the Excelsior on the Thursday night one was assailed with reproaches for having reported in The Aeroplane a week before that Flt. Lt. Schofield had crashed the Crusader through stalling in getting off. One's only reply was, and is, that being in London and not in Venice one published the reports which came through in the ordinary way, having no other source of information. If those who knew better had taken the trouble to write and say so the reports would not have appeared. And anyhow, thanks to a friend on the spot, The Aeroplane was able to say in its issue of Sept. 21 that the machine behaved as if its ailerons had been coupled the wrong way.

The facts are that through some almost inconceivable mistake the aileron connections were coupled the wrong way, with the result that when Flt. Lt. Schofield got off and pulled the stick in one direction the machine went the opposite way and the more he tried to correct it the more it went over, till at last it charged into the water sideways.

How the wrong coupling of the wires managed to pass at least three different stages of inspection is a mystery. It is just another example of how on occasion the most careful of people do the thing which is precisely opposite to what they intended to do and thought they were doing,—like treading on the accelerator instead of the brake pedal of a car, or putting the milk into the teapot instead of hot water. The submarine K.3. was sunk and forty-five people were drowned in her through just such a mental inversion.

Fortunately the wreck of the Crusader was retrieved and the fact was definitely established that the ailerons were coupled the wrong way.

Incidentally one was told that the crankcase of the Bristol Mercury engine practically disappeared. It was made of a magnesium alloy which is lighter than other aluminium alloys and is more soluble in sea water. And as the Adriatic is much salter than most seas the result was something like introducing the two halves of a Seidlitz powder to one another. This, of course, casts no aspersions on magnesium alloy as such. It is merely a small point of interest.

Apart from this incident there seemed to be nothing much of interest going on. The British Team had been doing some practice flying on the reserve machines, though nothing like as much as they might have done if they had been able to leave England sooner, and if their machines had not been so much delayed in transit.

Those who had seen the Italian machines fly were of the opinion that trouble or no trouble they were not quite as fast as ours.

Starred Engines.

The Napier Lion engines which had been used in the British machines for practice had by this date (Sept. 22) been changed for the special "starred" engines which had been specially tuned for use in the race itself. These special engines are, one believes, given a full power trial on the bench, after which they are stripped and carefully examined, re-assembled, given another full power trial, and then packed up, not to be used again till the actual race itself. That is to say, they are never in the air till they actually start the qualifying tests.

This of course is the way to be sure of having the last ounce of power in the race, for the engines which have been used in practice flying must necessarily have acquired a certain amount of carbon in the cylinders and may perhaps be developing some defect or other. But changing them must be a nerve-racking job for the machine and engine crews.

Any motorist who does any hard driving knows how after an engine has been out for overhaul there are always things coming loose for some hundreds of miles afterwards, till everything that is going to shake loose has done so and has been tightened up. And there is a kind of axiom among motorists that so long as an engine is running well the best thing to do is to leave it alone, for fear of disturbing something.

When the practice engine has been changed for the starred engine the people in charge must have a pretty anxious time going over every nut and locknut and split-pin and pipe-connection and electric joint. All the more credit therefore to Messrs. Scott, Smith and Oram of the Napier Company for the way in which our engines behaved in the race.

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The Preliminary Tests.

Friday, Sept. 23, was something of an anxious day for the machines had to be presented to the *Commissaires Sportives* in the state in which they were to fly in the Contest, and had to pass their navigation and mooring-out tests.

There was no anxiety about the flying, but there was a certain amount about the navigation and mooring, because the weather was uncertain. Apparently the date had been fixed to match the end of the Lido season in the hopes of extending it a week or so for the benefit of the piratical inhabitants, just as the Seaplane Races at Monaco used to be fixed at the very end of the Monte Carlo season in the hopes of inducing people to stay on awhile,—always entirely without effect. And of course these seasons end on their particular dates because that is the time when the weather is known to be most likely to break. And just as there has always been a *mistral* along the Riviera during the Monaco Meeting, so there was naturally a storm at Venice.

An Error of Control.

Friday morning, as a matter of fact, would have been quite good for the race. The sea was flat with just a nice breeze to give it a ripple. All the competing machines did their taxying tests and getting-off and alighting tests without trouble, with the exception of Flt. Lt. Webster. He taxied a bit too fast and the machine lifted for a few yards. He immediately put it down on the water again, and did the requisite turns and so forth, and everyone thought that all was well.

The station where the official observers were located had a mast on which a white flag was supposed to be hoisted if the tests were approved and a red flag was to be hoisted if any of the regulations were broken. Neither flag was hoisted after Flt. Lt. Webster had done his tests, and so he was told that he had passed. All the machines were then moored out for their six hours' test of water-proofness.

Late in the afternoon there was one of the worst thunderstorms one has met, with quite the biggest hailstones one has seen. Some of these stones were fully the size of the top joint of a real he-man's thumb. The British team and those concerned with the machines were considerably anxious, first of all lest the squalls which accompanied the storm should blow the machines over, or away from their mooring, and secondly lest the hailstones should damage them. They were not much afraid of the hailstones damaging the actual wings or fuselages, but they were rather afraid of their denting the oil radiators along the sides of the machines and on the floats.

Then when the storm was over word came in that Flt. Lt. Webster's taxying tests had not been passed, and that he would have to do them over again. That was naturally annoying because his machine was known to be the fastest in the Team, and there was always the possibility that the next day, which should have been an entirely idle day, might turn out to be stormy. The person who seemed to be least worried about that was the pilot himself.

After the Tests.

There was just a little daylight left after the darkness of the storm had passed and the Teams went out to tow their machines back to the Air Station.

The Italian Team had a very good dodge for handling their machines. Each machine had a private barge of its own, just big enough to hold it and its crew, and one end of the barge sloped down into the water so that the whole thing was a perfect floating slipway.

The British machines, on the other hand, were towed on their own floats, and were certainly more seaworthy than those of the Italian machines. By the time the machines had to be towed home, quite a big wind had got up and there was a nasty sea running in the fair-way along which the machines had to navigate from the sheltered water where they were moored to the Air Station at Sant' Andrea. At one moment the Gloster nearly rolled one wing-tip under, but, being so seaworthy, fortunately recovered herself.

All the machines were got safely back to the Station and put away till the morning of the race, excepting Flt. Lt. Webster's machine, which had to be brought out next morning to do its taxying tests.

A Busy Saturday.

Saturday was an off day so far as flying was concerned, Flt. Lt. Webster did his taxying tests in good order, so we were all pleased to know that we should have a full team for the race. During the day one went over to Sant' Andrea, where the Italian and British machines were parked, and found the machine-crews quite pleased about everything, and on excellent terms with the Italian guards and boatmen and everybody.

Separated as they were by a dead-end canal from the sheds which housed the Italian machines, they did not come in direct contact with the machine-crews of the Macchi Team. And so there was little or no information to be got about our competitors.

All that one did learn was that another of the F.I.A.T. engines had cracked up the previous day, and that the Italian mechanics had been working hard all night putting into that particular machine one of the Fiats which had won the Contest the year before. Evidently the Italians, in trusting such a well-tried engine, were determined that at least one of their machines should complete the course. Everybody was genuinely sorry about the bad luck of the Italian Team, because we all wanted to see a good race.

The Official Lunch.

At 13.00 hours the *Regia Aeronautica* gave an Official Lunch at the Excelsior to about 500 officials and visitors. The Duca de Spoleto, the son of the Duca d'Aosta who was one of Italy's greatest Generals during the War, presided. He is a naval officer, very tall and very handsome, and made a truly royal figure in the seat of honour. The guests of honour were the members of the two teams.

After the Lunch General Balbo made a graceful speech in Italian and expressed the hope of the *Regia Aeronautica* that the best man and the best machine might win. Sir Philip Sassoon replied to the toast, also in Italian, and at the end said in English, afterwards translating it into Italian, "Perhaps I may be pardoned for hoping that the best pilot and the best machine may be English." Our Italian hosts took the remark in precisely the right spirit and applauded like the good sportsmen they are.

Postponement.

As evening drew on the wind got up, and with it a very nasty swell in the open sea, and by nightfall everybody was practically sure that there would be no race next day. In fact semi-official announcements to that effect were issued.

Already every possible sleeping place on the Lido island was booked at famine prices, and apparently people were making up their minds to sleep on the beach or anywhere they could get. One began to fear that there might be a riot if there were no race.

The Evening Party.

That evening one had the pleasure of dining with Mr. Lester D. Gardner, the publisher of the leading American flying-paper *Aviation*, and Mrs. Gardner, and Col. Virginius Clark, formerly of the Consolidated Aircraft Corporation Ltd.,



ON THE WAY TO VICTORY.—Flt. Lt. Webster's Winning Supermarine being launched on her great adventure on Sept. 26.—(*"Aeroplane" photograph.*)

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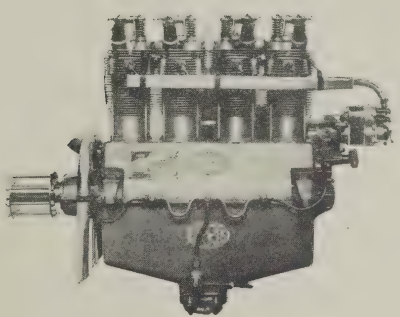
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and Mrs. Clark, at Florian's, where one gets the best food in Venice. Mr. Gardner had come over as the representative of the National Aircraft Association to the F.A.I. Conference at Rome, and Col. Clark, who has recently retired from the Consolidated Aircraft Corp., was taking a well-earned holiday in Europe. From them one learned all the latest news from the States, where, as readers of The Aeroplane know, things in aviation are going very well indeed.

Thereafter our party crossed back to the Lido where the Excelsior Hotel had billed a great Venetian Gala Ball. Thanks to the brilliant uniforms of a number of Italian officers the affair was rather pretty, otherwise one could have done better in any London hotel or night club, especially in the matter of music.

The Air Tourists.

By Saturday night quite a number of people had arrived at Venice by air. As was notified a week or two before in The Aeroplane, the little aerodrome on the Lido was declared closed by the *Regia Aeronautica*, and very properly so, in view of the possibility of visiting machines getting in the way of the speed machines practising over the course which passed close alongside the aerodrome.

The first arrival was Sir Philip Sassoon in a Fairey IIIF (Napier engine) piloted by Flt. Lt. A. G. Jones-Williams, M.C., commonly known in the Air Force as "John Willy." In spite of having to keep to the West of Paris owing to low clouds in Eastern France, a detour which must have cost them half-an-hour, they did the whole journey from Sir Philip's place at Lympne to the Lido, some 850 miles, in 6 hrs. 45 mins., the IIIF cruising comfortably at 120 m.p.h.

About the next arrival was Sq. Ldr. the Hon. R. A. Cochrane, A.F.C., with Flt. Lt. H. V. Drew, O.B.E., A.F.C., in a Westland Widgeon (Cirrus engine) who had come all the way round by Northern Germany and Austria as they were spending a month's leave on a light aeroplane tour of Europe. They had had permission to land at the Lido before the prohibition was issued.

The only other visitors to land at the Lido were Mr. Levine and Mr. Hinchliffe on the Bellanca (Wright Whirlwind). They apparently asked nobody's permission and simply landed.

Originally they had started from Cranwell with the idea of breaking World's records, but the machine has apparently grown so slow and the engine has gone so out of tune that their petrol consumption compelled them to land at Vienna. Thence Mr. Levine, as erratic as usual, decided to make a jump for Venice.

Just why this Mr. Levine should dash from country to country without a passport and should land on prohibited aerodromes without permission really ought to be explained by the authorities of the countries concerned. They are strict enough about any ordinary person's passports and permits. There seems no good reason why he should be privileged to break all laws at his own sweet will.

Another arrival by air was Mr. Alan Butler, who came with a friend in his own Moth, and, being a law-abiding citizen, landed at Padua,—whence he took four hours by train and boat to get to the Lido. He had an appalling passage over the Alps by way of Modane in the very worst weather. The machine was turned upside down several times and he lost his maps and gloves, and landed on the first Italian aerodrome absolutely physically exhausted.

Mr. Hubert Broad and Lady Carbery, who left Lyon at the same time, took the slower but more peaceful course round by Marseilles and along the Riviera.

Major Isitt, of the New Zealand Air Force, and Mr. Douglas Mill, the Moth agent for N.Z., also arrived at Padua by Moth, and came on by train.

The last of the aerial visitors to arrive was Miss Spooner, who gallantly piloted her own machine, and, one believes, unfortunately crashed it at Genoa on the way back.

The Race that Was Not.

On Sunday there was no doubt about it. The weather was utterly unsuitable for the contest. There was quite a big wind, making breakers on the shore which though they would have been pleasant for bathing were the result of a roll further out which would have been distinctly dangerous to any of the competing machines in a forced alighting. So official notices were issued by the *Regia Aeronautica* to say that as the sea was in a torment it would be perilous for the machines to alight thereon and that consequently there would be no race that day, though there were hopes of holding it next day.

The vast crowds of humble folk, including 3,000 workpeople from the Fiat Works at Turin, who had journeyed to the Lido to see the race, were bitterly disappointed, but they took it all with the utmost good nature and cheerfulness and departed quite peacefully without raising any kind of a riot. The rest of us just sat around and gossiped and did nothing. There was practically no sunlight, so there was nothing very much to cheer anybody up.

Venice As It Is.

Incidentally during the four days one was in Venice we had about half a day of real sunshine, about two hours of a first-class hailstorm and a whole evening and night of pouring rain. The rest of the time the skies were as dull as those of London. One may have been unlucky, but beyond the fact that the place was warm there was nothing about Venice better than London. And to compensate for the warmth the place seethed with mosquitos, which, as a Canadian friend said, were of a particularly mean breed, because they started sucking without biting whereas apparently the Canadian breed bites first and gives you a chance of squashing him.

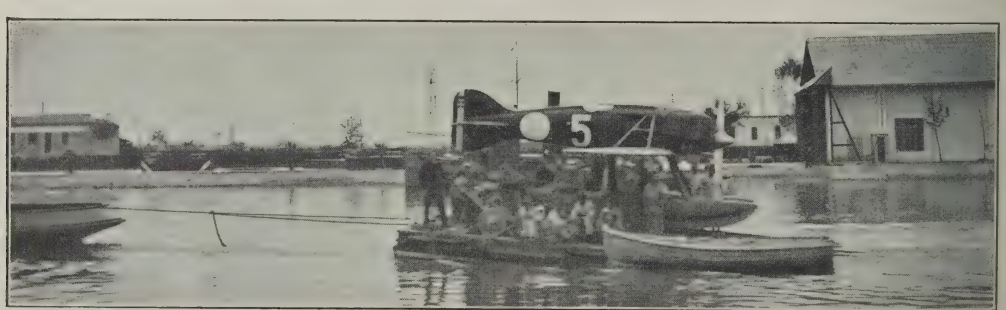
Venice itself is rather pretty, though very much overrated. One imagines that it got its reputation in those Victorian days when every journey abroad was a great adventure and every foreign scene a miracle of beauty. Barring the Piazza of San Marco there is nothing particularly beautiful about the place.

The basilica of St. Mark is so gilded inside that it looks tawdry, and outside it is too small to be imposing. The new Campanile, built to replace the one which fell down in 1902, is about half the size of the tower of the Roman Catholic Cathedral at Westminster, and otherwise very much in the same style. The much-advertised pigeons of St. Mark bear about the same relation in size and dignity to the pigeons of St. Paul's, London, E.C., that a French gendarme does to a London City policeman. If anybody wants picturesque laneways with water in them instead of pavements plenty of them can be found along Thames Street and down Wapping way. And for big imposing water-ways Venice is not a patch on Amsterdam.

Nevertheless the inhabitants are very cheery and charming, and if the canals were less insanitary and if the place were less full of mosquitos it would not be at all bad for a holiday of a few days. After that it would become rather a bore. And for a seaside holiday the Italian Riviera is far preferable.

The Italians themselves are apparently getting tired of Venice, judging by the number of empty houses and the places which are beginning to tumble down along the Grand Canal. The modern Italian, in that part of the World, seems to be backing the Port of Mestre, on the mainland behind Venice, as the place of the future. They talk of it as being the greatest port on the Adriatic in the very near future. So Venice itself looks like becoming a back number.

It seems rather a pity because we have all heard so much about it. But as a matter of fact all of Venice is quite modern compared with truly ancient buildings in Italy and elsewhere. Hardly any of it is more than a thousand years old, and when one compares that with Rome, let alone Ur of the Chaldees, it is only a matter of the day before yesterday. Added to



ITALY'S LAST HOPE.—Capt. Guazzetti's Macchi, on her barge, being towed down the canal from the Air Station.—(*"Aeroplane" photograph.*)

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which its architecture is merely Byzantine and the interior decorations of its palazzos, though opulent enough, suggest rather a very expensive Regent Palace than the dwellings of an hereditary aristocracy.

So perhaps the people in Venice who make a living by manufacturing genuine antiques for the benefit of tourists are not so very dishonest after all. For there does not appear to be anything in the shops of an earlier date than yesterday. Whatever there is good in the way of glass-work and embroidery manufactured in Venice can be bought very much better and cheaper in London, where one pays the market value instead of a sentimental value for it.

THE CONTEST FOR THE TROPHY.

Monday morning was not particularly encouraging. The wind had dropped almost entirely but there was still a swell on the sea outside the lagoon. The sun was struggling to get through a thin film of clouds very high up. Though the wind low down had backed to the North-East there was a slight movement of the clouds from the South-West, and in that direction the sky was very dark. The pilots all agreed that if only the weather would hold as it was it would be an ideal day for fast times, and for good flying owing to the absence of sun glare.

Before lunch-time one went out to Sant' Andrea to see the machines pushed off for the great contest. The pilots stopped at home intending to go out to their machines at the last moment. Which was very wise, for there was no need for them to be worried with last moment touches to the machines.

At the seaplane station everybody was in quite good spirits, though naturally anxious about the result. They knew that everything about the machines was as right as human care could make it. But accidents will happen in spite of everything.

The machines left at about 12.30 hours, the three British machines towing down the canal first behind their motor boats and the three Italian machines following them on their barges behind steam tugs.

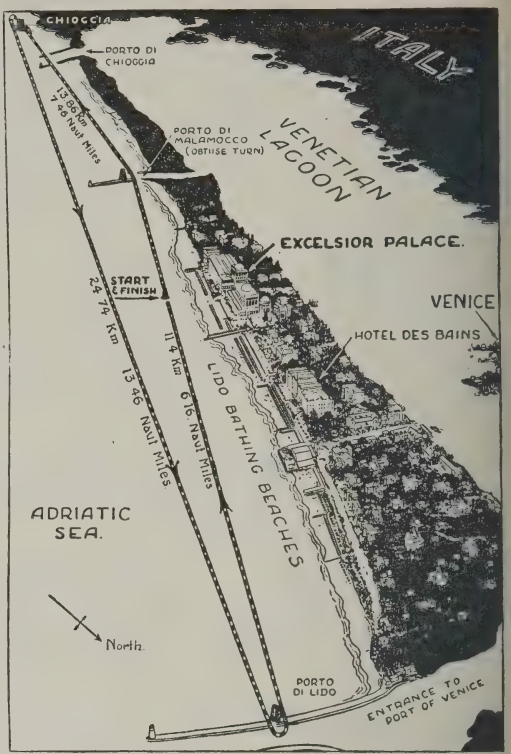
On the Mole.

The previous day Sir Philip Sassoon had very kindly sent one a message inviting one to join his party on the Mole where the Northern turning point was placed. The end of this Mole goes ashore just where an important part of the fortifications of the Port of Venice are situated and is therefore particularly sacred ground. So only a privileged few were allowed onto it by special permission of the Italian Government.

Consequently one was, and is, duly grateful to our Under-Secretary for Air for his thoughtfulness in thus providing The Aeroplane with an exceptional opportunity of seeing what was actually the most interesting part of the race.

From the Air Station one went by motor boat to the Mole, and, Fate being always kind to The Aeroplane, one found on the shore at the base of the Mole Mr. Oliver Vickers, Mr. Rex Pierson and Mr. and Mrs. Scholefield, all of Vickers Ltd., and Mr. Bernard Leete, encamped with a goodly supply of food. Having been too busy all the morning to provide oneself with provender of any kind one was duly grateful for their hospitality. And when the race was over one was equally grateful to them for a lift in their motor-boat back to the Excelsior whither one's own boat had gone after landing at the Mole.

Quite a large number of people had managed to penetrate along the shore past the tiny Lido aerodrome to the large area of waste land which lies in the triangle formed by the actual fortifications, the fore-shore, and the landward end of the Mole. After a while they were all swept away by men of the Italian Navy and parked along the somewhat distant fortifications. But an Italian Naval Warrant Officer of considerable intelligence and personal charm took our little party of English under his wing and commanded that we should be left where we were. So there we remained till Sir Philip Sassoon and the official Italian party, including the official observers at the turning point, and a number of Italian naval and military officers of high rank, arrived in launches.

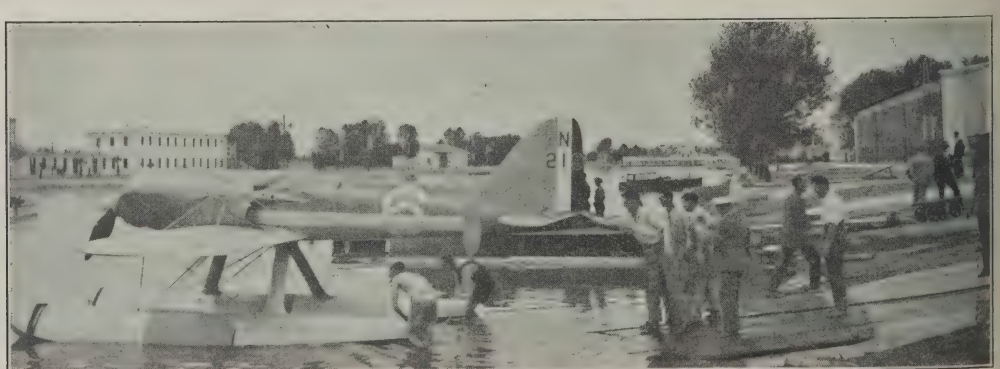


THE SCHNEIDER COURSE.—An air-view sketch of the Lido.
(With acknowledgments to the Italian State Railways' programme.)

At the Turning-Point.

Standing on the Mole we had a perfect view of the whole race. We could see the machines get off in the lagoon to the North of the Mole, do their preliminary circuit to get their height. After that they had to dash right across the Mole for the starting line. We lost sight of them for perhaps a minute at the far distant turning point but saw them coming for more than halfway, and saw the best part of the whole thing—the actual cornering.

As the moment for starting approached even the most phlegmatic of the English party, which included Air Commodore and Mrs. Longmore and several privileged officers of the R.A.F., became quite nervy. Personally one must confess that it is a very long time since one felt quite as thrilled over a race. Perhaps it was excusable, for this was evidently our great opportunity for regaining England's lost prestige.



OUR SECOND STRING.—Flt. Lt. Worsley's Supermarine, with direct-drive Napier, being launched on Sept. 26.
("Aeroplane" photograph.)

The start of the first machine soon put an end to anxiety. Flt. Lt. Kinkead on the Gloster took off splendidly on a climbing turn and came down across the Mole on a beautiful line to the starting point. In what seemed like three or four minutes he was sighted again making a very good line for the pylon.

Before he came to the turn Major de Bernardi had passed over, also going very strong, but his engine had not the penetrating roar of the Napier. It sounded crackly.

Flt. Lt. Kinkead's first turn showed that he did not intend to lose anything on the corners. Without throwing his machine about at all he came round on a small half-circle, merely rising enough to clear the Mole comfortably and apparently not slipping outwards or upwards in the least. And he came off the turn quite smoothly in a perfect line for the starting point in front of the Excelsior.

The Winner's Start.

A few minutes afterwards Flt. Lt. Webster came over also with his engine running perfectly, and flying beautifully steadily. There was something of a gap between him and Major de Bernardi probably owing to the fact that the time-keepers at the getting-off point were allowing for number 3, the American competitor, who had not arrived.

The arrangement was that each competitor should start a minute after the man in front of him. But the rules allowed that after being given the word to go a competitor was allowed ten minutes in which to cross the actual starting line in front of the Excelsior. This meant that if a man liked to spend several minutes climbing so as to get a good dive for the line he could do so. And consequently he might actually cross the line behind the man who had started after him. As a matter of fact that did not happen because nobody took the trouble to climb very high before going for the line.

After Flt. Lt. Webster came Capt. Guazzetti, with last year's engine, apparently running very nicely.

And after him came Flt. Lt. Worsley on the Supermarine with the ungeared Napier. He did go a bit higher than the other starters and came down to the line at a terrific speed with his engine running on a very much higher pitched note than any of the others.

De Bernardi's Misfortune.

By the time he had gone we were beginning to get anxious about de Bernardi who had not shown up after his first lap. And very soon those of the party with glasses spotted his machine far away down on the seaward leg of the course floating peacefully on the water.

There he sat with his machine rolling on the gentle swell, till he was picked up by a patrol boat from H.M. Aircraft Carrier *Eagle*. This rolling, coupled no doubt with the enormous nerve strain before the race caused by anxiety about his engine, and the very natural disappointment of being put out of the race, made him so ill that he did not turn up at the ensuing party.

Everybody was frightfully sorry, for de Bernardi is a very fine pilot, as the winner of last year's race was necessarily, and is besides a very likable personality. So far as one could discover, his particular engine trouble was valves, though another story said that a connecting-rod came out of the crank-case for a breath of fresh air.

Last of all came Major Ferrarin, the hero of the first great flight from Europe to Japan. His engine, like Major de Bernardi's, sounded rough. And he did not appear to be travelling anything like as fast as our machines.

The Turnings.

Flt. Lt. Worsley's first turn showed that he also was not wasting any time on trick flying. He came round in a perfectly steady half circle, with about a 60 degree bank, absolutely without a waver anywhere, and apparently without losing any speed at all. At the end of his first lap Flt. Lt. Kinkead was about 100 yards behind him. Flt. Lt. Kinkead put on a steeper bank and practically did a half circle concentric with Flt. Lt. Worsley's, coming out on a line for the hotel about 100 yards in front of him and 50 feet or so below him. It was quite the prettiest sight of the whole race, and it showed how beautifully both pilots were cornering.



PASSING THE TRIBUNES.—Flt. Lt. Worsley and Flt. Lt. Kinkead together passing the scoring board, as seen from the Official Tribunes.

After that both Flt. Lt. Webster and Flt. Lt. Worsley took their corners a good deal closer, with a steeper bank. As may be seen from the table which is published in this issue Flt. Lt. Worsley's times improved considerably in his last three laps, certainly because of improved cornering as he got to know the course better.

Meanwhile Major Ferrarin was seen coming back to the starting place, still flying, but obviously with his engine in trouble. We learned afterwards that two of his pistons had broken.

Just about the same time Capt. Guazzetti took his first



THE LAST TO LEAVE.—Major Ferrarin's Macchi putting out for sea on Sept. 26.—(*"Aeroplane" photograph.*)

corner. His method was utterly opposed to that of the English pilots. He came to the pylon comparatively close in and low down. As he passed it he threw the nose of the machine up into the air and let it shoot up by its own momentum till he was almost vertically banked and at a height of several hundred feet. Then he pushed the nose of the machine down, came off the bank and dived for the starting line. It was in fact almost what is known as an "Immelmann" turn, which the late Gordon Bell claimed to have invented as a method of escape from that redoubtable enemy.

Captain Guazzetti took all his subsequent corners in this way. One judges that every time he threw the machine up into the air in this manner his speed must have dropped anywhere between thirty and forty miles an hour. And he would certainly not get that much speed back again on the dive for the starting line.

Our pilots tried this trick when practising in England, although on considerably slower machines. And they came definitely to the conclusion that it did not pay. One believes that the American racing pilots came to the same conclusion some years ago.

De Bernardi and Ferrarin both being out of the race, and Guazzetti's machine being obviously slower than any of ours, the result was by now a foregone conclusion unless by some extraordinary stroke of ill-luck all our engines packed up—which was about as unlikely as anything could be. If there had been any signalling arrangement they might have been told to slow down a bit and make doubly sure, but one doubts whether even if there had been signalling they would have paid any attention to it. Their Napiers were obviously running absolutely perfectly and sounded as if they could have gone on for twenty-four hours. And the pilots were evidently out either to extinguish World's Records or themselves.

Our One Mishap.

Just when we had made up our minds to cry "*Korban*. It is a gift," or words to that effect, we suddenly realised that Kinkead was overdue. Webster came round the corner out of his turn. And then to our sorrow we saw the Gloster touring back to the starting-place over the lagoon at a mere 200 miles or so an hour.

She landed in the fairway on the opposite side from the Mole, and presently a motor-boat came and took her in tow. As she was towed back close to the Mole those with glasses noticed that the near, or port, side of the machine was black with smoke, and that the pilot's left shoulder was also blackened. At once the theory went round that he must have retired because he was gassed. And an hour or so after the race this theory had grown into a rumour based on the best authority.

It was only when the teams themselves came back from Sant'Andrea that we learned that the real trouble was that the spinner on the airscrew boss of the Gloster had cracked just where the blade of the screw passes through it, and that a strip of the cracked metal had wrapped itself round the blade of the screw and so had thrown the whole thing out of balance—such is the effect of even a tiny piece of metal at those clossal speeds.

Anyhow it was enough to set up a vibration which shook the whole machine and did, one believes, actually jolt loose the carburettor intake pipe in spite of the locknuts and all forms of assurance. An R.A.F. officer who had been at Sant'Andrea when the engines were being run up just before the race told one afterwards that he had spotted at the time that the spinner was a trifle out of truth, but that as he was there entirely unofficially he had not liked to comment on the fact. It was rather a pity he did not.

The Last Italian Competitor.

Shortly after Flt. Lt. Kinkead retired Capt. Guazzetti came round at the end of his sixth lap, pitched his machine up as usual and made off for the hotel, but to everybody's surprise, instead of carrying along over the water in front of the hotel he flew straight for the domes of the hotel itself and then suddenly shot up and away to the right towards the lagoon instead of to the left down the course.

We learned afterwards that either a petrol pipe had broken or a petrol pump had burst and that coming off the turn he was suddenly deluged with petrol, which blinded him so that he had not the faintest notion which way he was going. Somehow he managed to see the top of the hotel just in time to pull the machine up and miss it, and after that, as he said himself, he seemed to land the machine by instinct in the lagoon. Though how he missed the all-pervading telegraph posts and wires and the posts which mark the shallow spots is an absolute mystery.

That put the last of the Italian pilots out of the race, much to everybody's sorrow, for they are all magnificent pilots and, given engines as good as our Napiers, one would not care to bet on the result of a race between them and our team.

Just after Guazzetti retired rain began. There was not much of it, but it was just enough to be unpleasant. And it spoiled the visibility quite considerably. It may perhaps account for the fact that Flt. Lt. Webster's last two laps were slower than his fourth and fifth. But against that there is the contradictory fact that Flt. Lt. Worsley's last two laps were his fastest. Perhaps the rain cooled his ungeared airscrew.

The Finish.

Ultimately, as all the World knew a few minutes after he had passed the post, Flt. Lt. Webster finished first, having covered the 350 kilometres in 46 mins. 20.3 secs., which gives a speed of 281.49 miles per hour over the whole distance, a speed which beats handsomely the World's Speed Record made over a straight three-kilometre course. That means that actually on the straights he must have been travelling well over 300 miles an hour.

He covered an eighth lap just to make sure of his counting.

Flt. Lt. Worsley's speed of 272.91 miles per hour is also a magnificent performance, and shows that he did, at any rate on the straights, beat the World's Record all the way.

Time-Keeping.

The time-keeping was terribly bad, as the accompanying table shows. All the lap times may be considered more or less inaccurate, and two particularly bad mistakes were made. Fortunately, Mr. George Reynolds, the official time-keeper of the Royal Aero Club, had his eye on the lap times, so The Aeroplane can give them correctly.

The very first lap of the race, that of Major de Bernardi, was given as 7 mins. 00.1 secs. Several good ordinary watches both at the starting point and at the Mole agreed that his speed was 6 mins. 46 secs. So far as one knows this time, which was given out officially, was never corrected.

The other mistake was Flt. Lt. Kinkead's fourth lap, which was announced officially as 6 mins. 26.8 secs., which would make his speed over the lap something better than 290 miles per hour. It was obviously incorrect, because his fastest other lap was 17 seconds slower than that, and all the others were slower still. Although he was cornering much closer than anybody else in the race he could not possibly have picked up 15 seconds by sheer improvement in course keeping.



THE WINNER.—Flt. Lt. Webster on the Supermarine (Napier) passing the winning-post.
(Photograph by courtesy of Sig. Guido Matteoli, of "L'Aviazione.")

After the whole show was over the time for that particular lap was given as 6 mins. 46.8 secs., which agrees with all his other lap times. The mistake was very hard on him, because everybody assumed that the officially announced time was right, and proceeded to congratulate him on having done the fastest lap in the race and having put up a World's Speed Record as a consolation for his having to retire after his fifth lap. Everybody will sympathise deeply with him in his disappointment.

[*Now let Mr. Bridgman tell the story of the Contest as seen from the Winning Post.*]

THE RACE FROM THE HOTEL EXCELSIOR.

By 14.00 hours excitement was intense and many notabilities, including the Crown Prince of Italy, Signor Balbo, the Under-Secretary of State for Air, and numerous high officers of the *Regia Aeronautica*, Army and Navy had taken up their appointed places.

Loud-speakers kept making last-minute announcements to the crowds assembled in front of the hotel and along the beaches. Immediately in front of the hotel was the official enclosure containing the timing apparatus and other necessary paraphernalia.

From one's particular vantage point, a balcony on the fourth floor of the hotel, it was impossible to distinguish the most important inhabitants of this enclosure with the possible exception of the Secretary of the Royal Aero Club whose tropical raiment and familiar stance made it impossible to disbelieve one's eyes. As this enclosure was lined on either side by detachments of *Regia Aeronautica* cadets it is assumed that the other less conspicuous and more drably arrayed occupants were personalities of some importance.

To the extreme left of the Excelsior beach was the official scoring board and on the right of the central enclosure was situated the band of the Bersaglieri in their picturesque hats decorated with bright blue cock's feathers.

Far out to sea were H.M.S. *Eagle*, the Italian battleship *Dante Alighieri* and a cruiser of the *San Giorgio* class, and dotted along the course were a number of Italian minesweepers and coastal-motor-boats, and overhead circled a Savoia 59 flying-boat which was supposed to keep a sharp look out for forced landings and give help where necessary.

Promptly at 14.30 hours, the loud-speakers announced that No. 1, Flt. Lt. Kinkead on the Gloster IVb, had taken off and a few seconds later this machine could be seen to the north circling away to get a good flying start over the line. Three minutes later it was seen approaching low down and at 14 hrs. 33 mins. 41.47 secs. it crossed the line going beautifully, the Napier engine, sounding like any other good Napier only more so, its actual passing being heralded by the roar of the airscrew which resembled the whine of ten million gargantuan mosquitos.

The announcement that No. 2, Major de Bernardi, had taken off was greeted with cheers and when at 14 hrs. 38 mins, 10.37 secs. the red projectile-like Macchi 52 crossed the line the patriotic Italian crowd let themselves go in homage to last year's victor.

One particular Italian officer, arrayed in all that glory which only an Italian officer can carry with dignity, rushed into the sea until his immaculately cut polo boots were submerged and waved a handkerchief till he nearly overbalanced.

Thereafter all interest was centred on the first lap times of the two first representatives now speeding round the course.

Kinkead came round first making an immaculate turn at the northern turning point and flying very low. His first lap time was put up as 6 mins. 59 secs. showing an average speed over the 50 kilometres of 266.5 m.p.h.

Major de Bernardi followed some five minutes later making one of the characteristic Italian turns at the northern turning point which drew rounds of applause from the crowd. He completed his first circuit flying fairly high past the hotel to renewed bursts of cheering. When his lap time of 7 mins. went up, one second slower than the time taken by Kinkead a hush fell on the crowd, which thereafter never recovered from this first shock.

Immediately behind de Bernardi followed No. 4, Flt. Lt. Webster on the first Supermarine S.5 with the geared Napier engine, who crossed the line at 14 hrs. 45 mins. 11.37 secs.

At 14 hrs. 47 mins. Kinkead completed his second lap at an average speed of 277.18 m.p.h. which, with an increase of 10 m.p.h. over his first lap, struck further consternation into the crowd.

This was augmented by the fact that de Bernardi failed to put in an appearance on his second lap, and nothing was known as to where and why he had been forced out.

At 14 hrs. 48 mins. 44.96 secs. Lieut. Guazzetti, the second Italian, crossed the line and at 14 hrs. 51 mins. 49 secs. Webster completed his first lap, showing the amazing speed of just over 280 m.p.h., thus exceeding the existing World's Speed Record for landplanes, held by France since December, 1924.

At 14 hrs. 54 mins. 2.12 secs., Flt. Lt. Worsley crossed the line on the second Supermarine S.5 with the direct-drive Napier and was closely followed by Kinkead who completed his third lap at an average speed of 275.8 m.p.h. This lap was recorded on the official scoring board as having been completed in 6 mins. 26 secs. but this time was later officially corrected to 6 mins. 45 secs.

At 14 hrs. 55 mins. 57 secs. Guazzetti completed his first lap at an average speed of 257.3 m.p.h., a speed that clearly demonstrated that the Italians were much slower than the British machines. Nevertheless, it was fully realised that even the best regulated of racing aero-engines are likely to develop hiccoughs, and although every faith was felt in the three Napier engines everyone realised that there was a long way to go before we were clear of the wood.

A slight drizzle had set in which didn't tend to improve matters, but visibility seemed to be good as the three British machines still continued to fly very low and took their turns in impeccable fashion.

At 14 hrs. 58 mins. 26 secs. Webster completed his second lap at 281.8 m.p.h. and at 14 hrs. 59 mins. Lieut. Ferrarin, the last of the Italians, crossed the line with an engine which sounded unsatisfactory. Before he had gone more than a quarter of a mile he was seen to emit clouds of black smoke and a burst of flame and he immediately pulled up into a climbing turn and returned to the lagoon throttled right down.

This misfortune, which was later found to be due to a broken piston coupled with the still mysterious disappearance of de Bernardi, left but one Italian, Guazzetti, in the race.

At 15 hrs. 00 mins. 55 secs. Kinkead completed his fourth lap at 274.6 m.p.h. having passed Worsley while rounding the northern turning point, the latter completing his first lap at an average speed of 269.3 m.p.h.

At 15 hrs. 03 mins. 22 secs. Guazzetti completed his second lap at a speed of 263.3 m.p.h., at 15 hrs. 05 mins. 5 secs. Webster completed his third lap at an average of 280 m.p.h., at 15 hrs. 07 mins. 50 secs. Kinkead completed his fifth lap at 270.7 m.p.h., and at 15 hrs. 07 mins. 51 secs. Worsley completed his second lap at 272.7 m.p.h.

In the sixth lap Kinkead was forced to land through the new spinner coming adrift. Instead of flying clear it in some mysterious manner a strip of it wrapped itself round one of the airscrew blades, setting up a terrific vibration which threatened to disintegrate the machine in the air. The slower the machine flew the worse was the vibration but with consummate skill Kinkead made a successful landing without any damage whatever.

At 15 hrs. 10 mins. 5 secs. Guazzetti completed his third lap at an average of 264.54 m.p.h. his fastest lap. Thereafter his times grew gradually slower until on his seventh and last lap he was forced to retire with petrol pump trouble.

On his fifth lap he approached the northern turning point slightly in front of Webster but on the actual turn he was passed in a manner which conclusively proved that the British method of turning was far superior to the more spectacular Italian method.

On his sixth and final lap he took the northern turning point wide and very nearly charged the Excelsior Hotel after which he disappeared behind the Lido and made a safe landing in the Lagoon among all sorts of obstructions after being nearly blinded with petrol squirting in his face.

Thereafter the race resolved itself into a battle between the two Supermarine S.5s, Webster completing his seven laps at 15 hrs. 31 mins. 65 secs. He continued for an extra lap as he had estimated that he would cover the course in 50-55 mins. He actually completed it in 46 min. 20.28 secs. which made him doubt whether he had actually done the full seven laps.

On the completion of the eighth lap he made a wonderful flick turn over the hotel and doubled back to the Lagoon to the applaudissements of the crowd.

At 15 hrs. 41 mins. 48.89 secs., Worsley finished in second place and the race was over.

Long before that the crowd began to filter away, partly owing to the rain and partly owing to the unfortunate débacle of the Italian team, of which its country had expected so much.

Webster completed the course of 350.07 kms. at an average speed of 453.282 km.p.h. (281.65 m.p.h.) and Worsley completed it at an average of 439.472 km.p.h. (273.07 m.p.h.).

The winning speed exceeds the World's Speed Record for any type of aeroplane or seaplane by 3 m.p.h. and the fourth and fifth laps together set up a World's Speed record over 100 kms. of 456.522 km.p.h. (283.66 m.p.h.).

In spite of the fact that Webster did one extra lap he landed with nine gallons of petrol still in his tanks, a remarkable tribute to the engine and its conservative appetite.

Some minutes after the finish the band re-assembled in the

grounds of the hotel and played the British and Italian National Anthems and except for the applause that followed, spectators seemed slightly damped by the rain and stunned by the overwhelming victory for Great Britain. Thereafter everybody assembled in the hotel to await the return of the British team from S. Andrea.

Shortly after 16.30 hours a covered motor-boat was seen approaching the back entrance to the hotel, but it was not until it was moored alongside the quay that it was realised that it contained the victorious team. Immediately the grimy faces of the three pilots appeared they were treated to a real hearty British reception and after being hoisted shoulder high were carried in triumph into the hotel where they were allowed to sip of the cup of victory to real good purpose without let or hindrance.

THE END OF THE DAY.

Here one resumes the Editorial tale :—

After it was all over and the sighs of relief had been sighed the party from the Mole made for the Excelsior, where everybody who was English seemed to be busy receiving congratulations from everybody else, while we English were trying to express in our usual clumsy way our regret to our Italian hosts that they had had such rotten luck.

Of all the congratulations none were heartier than those of the many German visitors. They could scarcely have been more pleased if they had won themselves.

Smart Work.

Writing of all the World knowing the result suggests that this is the right point at which to tell of one of the smartest pieces of work in connection with the meeting. The Press had been warned some days before that there was something like six hours' delay on the cables between Italy and England, certainly through no fault of the Italian Post Office. So Wing-Commander Fletcher, our hardworking Air Attaché at Rome, who had, as the French say, expended himself in his efforts to do everything possible for all the English people in Venice (who ranged all the way from being importunate to being impertinent) had arranged to have a couple of signallers from H.M. Aircraft Carrier *Eagle* on the roof of the hotel.

As each notice of the progress of the race went up on the scoring board he gave it to the signallers, who flag-wagged it to the *Eagle*, who wirelessed it straight to London. Whether it was picked up by the Admiralty wireless and transmitted to the Press, or whether it was picked up by the Marconi Company, or somebody else, the fact remains that the progress of the race was read off in London within a minute or two of its happenning.

It was good work and the British Nation ought to be duly grateful to this excellent example of co-operation between the Navy and the Air Force.

Incidentally Wing Cdr. Fletcher must have had a fairly hectic time arranging things between all kinds of English people, from Air Vice-Marshals to aeroplane salesmen, who knew no Italian, and Italian officials, from Generals to gate-keepers, who knew no English. Just how he managed to explain to the Italian authorities the precise order of precedence of a senior Air Vice-Marshal, and Member of the Air Council, in plain clothes holding a watching brief on the proceedings in relation to a junior Air Vice-Marshal in uniform on duty in command of the team Heaven only knows.

Somehow he managed to keep smiling all through it, and he certainly did an immense amount to promote good feeling on both sides. Personally one owes him an eternal debt of gratitude for the kindly forethought and consideration which he showed,—and that despite a certain remark about R.E. officers which appeared in The Aeroplane in the days of the Air Battalion R.E., to which he belonged before ever there was any R.F.C.

An Impromptu Party.

On Monday evening Sq. Cdr. Bird of the Supermarine Company and Mr. Vane of Napiers gave a party to all and sundry to meet the two teams. The big banqueting hall at the Excelsior happened to be occupied by a dinner for some sort of an Insurance Congress, but they managed to accommodate our crowd in the restaurant. Unfortunately, as indicated hereinbefore, Major de Bernardi was unable to be present. But Major Ferrarin and Capt. Guazzetti showed that in spite of their bitter disappointment their amiability had not been affected.

Unfortunately directly after dinner the British Team had to go over to Venice at the behest of Sir Philip Sassoon to be presented to various and sundry Italian dignitaries there. Of course their absence rather took the edge off the party.

Late that evening, or possibly early on the Tuesday morning, a little incident occurred which was so thoroughly English that it must be recorded. Among the people of any other nation the winner of the race and his team-mates would have been escorted round with brass bands and banners and would never have been left alone for a moment till they actually went to bed. But at the aforesaid small hour, when the remnant English party had assembled in the Bar, two small men in dinner jackets pushed their way through the crowd, put their feet on the rail and their elbows on the Bar and demanded drinks from the bar-tender.

One recognised Webster and Kinkead, and asked in mild surprise "Hullo, what are you chaps doing here?" having in mind that they ought then to have been consorting with the Great Ones of the Earth. And Webster replied in his usual quiet way "I'm buying Kink a drink."—So English, isn't it?

That may, one thinks, be taken as the uttermost end of the proceedings. Next morning as many as could manage it pushed off by the early trains, and after another thirty hours or so in that Italian State Railway carriage our little party did not care how dirty the white cliffs of Old England were when they saw them.



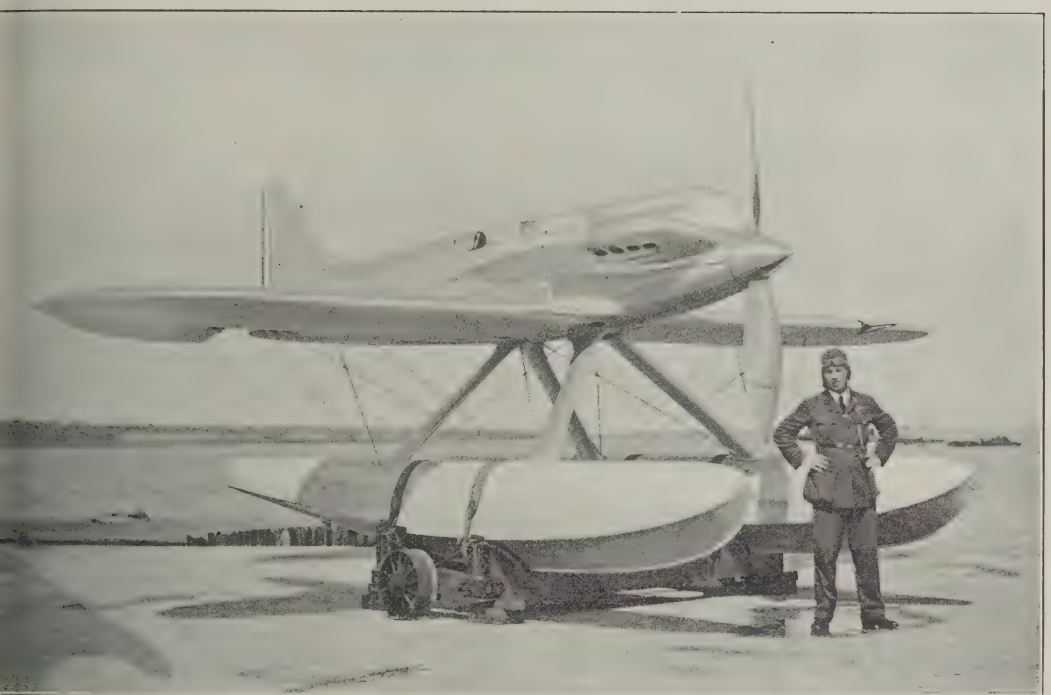
THE WINNER.—Flt. Lt. Webster passing the Winning Post.

1ST VICTORY FOR 2ND

British High-Speed Monoplanes

AT VENICE, SEPT. 26, 1927, IN THE

SCHNEIDER INTERNATIONAL SEAPLANE RACE.



The Winning Machine Supermarine Napier S.5.

Flight-Lieut. S. N. WEBSTER, A.F.C., R.A.F.



"SOUTHAMPTON" METAL CONSTRUCTED FLYING BOAT.
One of this type will be commissioned on the Far East Cruise of 25,000 miles to Singapore.

Surpassing all Previous World's Records



SUPERMARINE NAPIER "SEA LION" FLYING BOAT.
Winner of THE SCHNEIDER CUP AT NAPLES, 1922.

Three of these High-Speed Monoplanes were specially designed and constructed to the order of THE AIR MINISTRY by

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KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

Nevertheless, thanks to the extreme courtesy and cheeriness and general good nature of our Italian hosts, and especially their fine sportsmanship in the way they took their defeat, we carry with us the kindliest recollections of Italy, and we hope that when the contest is held in England next year as many as possible of our friends of the *Regia Aeronautica* will come to this country. We will endeavour to give them a really good time, and we will hope to provide them with good weather. Also we wish most heartily that next year the race may be fought to a finish and that nobody may be put out of it by sheer ill luck.—C. G. G.

[*Mr. Bridgman hereafter deals with the events after the Contest.*]

THE AFTERMATH.

On the Tuesday evening the three competing companies, Supermarine, Gloster and Napier, gave an impromptu dinner and entertainment to all the mechanics, R.A.F. and civilian, who had by their hard work and devotion to duty contributed so successfully to the final happy result.

Earlier in the day the team were the recipients of handsome gifts from Gabriele D'Annunzio, the poet-aviator. Fl. Lt. Webster received a gold ring in the form of an eagle, in the breast of which is set a large ruby. Each of the three British pilots also received a silver cigarette case engraved with a design representing a hand holding a laurel wreath thrust out of waves, with the motto "*Memento audere semper.*"

On Wednesday the British team was entertained at a lunch at the Hotel Danieli by the Italian Aero Club, where under the presidency of Prince Scalea, President of the Italian Aero Club, the Schneider Trophy was symbolically handed over to the British team. Actually, the Trophy was still on public view in the Piazza San Marco, where it has been for some considerable time prior to the race.

Prince Scalea in his speech said :—

The Venetian sky has seen many noble sights and valorous deeds in the past and it is indeed fitting that in this same Venetian sky English pilots should have won a victory which stirred the admiration of the whole World.

In the past and in the present the spirit of emulation has inspired airmen to ever greater achievements and in the future the same spirit will drive them forward to even new conquests. We hope that we shall again win this Trophy but in the meantime no words of praise can be too high for the skill, bravery and daring of the British victors.

Flt. Lt. Webster was called upon to make a speech, but after expressing his thanks in a few words he got rid of all further responsibility by proposing the toast to the Italian team.

Finally on the Thursday the team was received by the Fascist Federation in the Palazza di S. Marco and presented with commemorative tributes in the form of a gold plaque to Flt. Lt. Webster, a silver plaque to Flt. Lt. Worsley and gold medals to each of the other entrants, British and Italian, who took part.

The actual presentation was made by the Secretary of the Fascist Federation, who in his address paid a high tribute to the victorious team and eulogised Anglo-Italian friendship.

Finally at 14.00 hours the team left S. Lucia station en route for Paris and London.

Incidentals.

Incidentally it is interesting to recall that almost as soon as Mr. Levine had arrived at the Excelsior Hotel from the aerodrome he was seized upon by some obscure officials and made a member of the *Commission Sportif*. This piece of amazing news was broadcast by loud-speakers just before the race, with the result that representations were made to reverse this decision. Within a very few minutes the loud-speakers announced his removal.

After all for a man to defy regulations by landing on a forbidden aerodrome without credentials is bad enough, but to appoint him to a position of authority seems too much like a miscarriage of justice.

Mr. Levine was also defeated, by the wiliness of Major C. C. Turner, in an attempt to get himself photographed in a group with the winner of the Trophy.

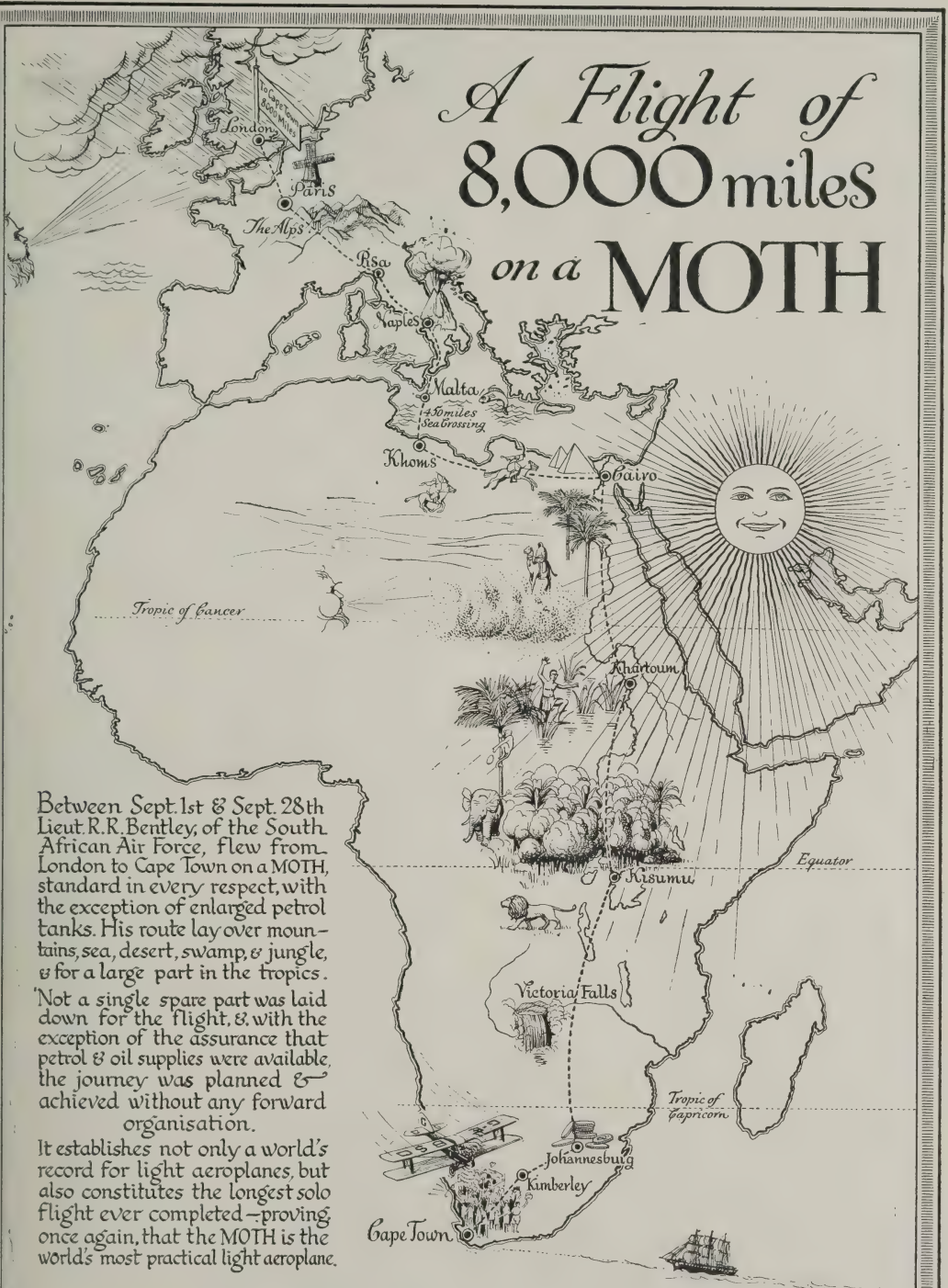
A considerable number of English visitors seized the dual opportunity of seeing the Schneider Trophy race and "taking a stab" at the bathing, with, in regard to the latter, picturesque results.

The list of British visitors who arrived by air has been told elsewhere. Of those visitors who arrived overland it is impossible to give a complete list. They ranged all the way from wealthy aircraft constructors down to junior flying officers of the R.A.F., all of whom contributed to the gaiety of nations each in his own particular fashion.

To some, the showing off of the latest acquisition in sunbathing wear appealed most. Others were for sampling the *vins du pays*, with no particular restriction as to the *pays*, while at least one gave a marvellous swimming display in the Grand Canal. But one and all were there to see Great Britain win, and there can be none who can honestly say

No.	Pilot.	Machine.	1st Lap.		2nd Lap.		3rd Lap.		4th Lap.		5th Lap.		6th Lap.		7th Lap.		Total 7 Laps. 350 km. = 217.35 miles		
			Time m. s.	Speed per hour	Time m. s.	Speed per hour	Time m. s.	Speed per hour	Time m. s.	Speed per hour	Time m. s.	Speed per hour	Time m. s.	Speed per hour	Time m. s.	Speed per hour	Time m. s	Speed per hour	
1	Kinkead Gt. Britain	Gloster IV.B	6-59.5	429.1 km. 266.5 miles	6-43.5	446.2 km. 277.1 miles	6-45	443.6 km. 275.8 miles	6-46.8	442.2 km. 274.6 miles	6-55.3	435.9 km. 270.7 miles	*(Retired)*				*5 laps, 250 km. in 34 m. 11.9 s. 438.88 km., 272.53 miles, per hour.*		
2	De Bernardi Italy	Macchi 52	7-00.1 (6-47.2)	423.5 km. 263.1 miles	*(Retired during second lap)*														
3	Williams U.S.A.	Non-Starter																	
4	Webster Gt. Britain	Supermarine S.5	6-38.6 (6-36.6)	451.6 km. 280.4 miles	6-38.0 (6-34.6)	452.9 km. 281.8 miles	6-39.6 (6-43)	450.5 km. 279.8 miles	6-33.6	457.4 km. 284.1 miles	6-35.0	455.9 km. 283.1 miles	6-37.5	452.9 km. 281.8 miles	6-38.0	452.4 km. 281.5 miles	46-20.3	453.2 km. 281.49 mile	**1st**
5	Guazzetti Italy	Macchi 52	(7-13.4)	416 km. 257.3 miles	(7-04.8)	424 km. 263.3 miles	(7-04.0)	426 km. 264.5 miles	(7-19.2)	409 km. 254 miles	(7-27.4)	403 km. 250.2 miles	(7-16.4)	412.4 km. 256.1 miles	*(Retired)*	*6 laps, 300 km. in 43 m 27.7 s. 415.24 km., 257.78 miles, per hour.*			
6	Worsley Gt. Britain	Supermarine S.5	6-59.9 (6-55.2)	438.7 km. 269.3 miles	6-50.2 (6-49.2)	439.1 km. 272.7 miles	6-49.0	444.2 km. 275.8 miles	6-50.8	438.1 km. 272.1 miles	6-48.5	440.7 km. 273.7 miles	6-47.4	441.9 km. 274.4 miles	6-45.9	443.5 km. 275.4 miles	47-46.7	439.47 km. 272.91 miles	**2nd**
7	Ferrarin Italy	Macchi 52	*(Retired during first lap)*																

Note.—There are substantial reasons for believing that the official time of 7 m. 0.1 sec. given for Major de Bernardi's first lap, like the original time given for Flight-Lieut. Kinkead's third lap, is seriously incorrect. Major de Bernardi's true time for the first lap is believed to have been 6 m. 47.2 secs. This would make his speed 443 km., or 275 miles per hour, and would be more consistent with the apparent speed of his machine and its obvious superiority over that of Capt. Guazzetti. Corrected times for each lap, taken by Mr. George Reynolds, Official Timekeeper of the Royal Aero Club, appear in brackets, wherever they differ materially from the official times. But the official total times only are


A Flight of
8,000 miles
on a MOTH
To Cape Town 6,000 Miles
London
Paris
The Alps
Pisa
Naples
Malta
450 miles Sea Crossing
Khoms
Cairo
Tropic of Cancer
Khartoum
Kisumu
Equator
Victoria Falls
Tropic of Capricorn
Johannesburg
Kimberley
Cape Town
Between Sept. 1st & Sept. 28th Lieut. R. R. Bentley, of the South African Air Force, flew from London to Cape Town on a MOTH, standard in every respect, with the exception of enlarged petrol tanks. His route lay over mountains, sea, desert, swamp, & jungle, & for a large part in the tropics.
'Not a single spare part was laid down for the flight, & with the exception of the assurance that petrol & oil supplies were available, the journey was planned & achieved without any forward organisation.
It establishes not only a world's record for light aeroplanes, but also constitutes the longest solo flight ever completed—proving once again, that the MOTH is the world's most practical light aeroplane.
The MOTH is designed and manufactured by
THE DE HAVILLAND AIRCRAFT COMPANY LIMITED
Stag Lane Aerodrome, Edgware, Middlesex.

that he or she came away without getting their money's worth, in spite of the indigenous pirates.

The hospitality of the Italian Authorities and the *Regia Aeronautica* was very much appreciated, and it is sincerely hoped that Italy will visit us next year in order that we may make an effort to repay them for all that they did to make the stay of the British team as enjoyable as possible.—L. E.

CONGRATULATIONS.

The following congratulatory messages have been sent :—

From Lord Stamfordham, His Majesty's Private Secretary, to the Air Ministry :—

The King heartily congratulates the Air Ministry and Pilot Webster on the victory achieved in the Schneider Cup race.

The following message by the Secretary of State for Air to Air Vice-Marshal Scarlett :—

Delighted to learn successful issue of to-day's contest with our Italian friends, whose skill and sportsmanship have been so abundantly shown in previous races. Please convey Flt. Lt. Webster and all concerned my heartiest congratulations on magnificent victory of Supermarine and Napier Lion engine, which is one more proof of unsurpassed excellence of British personnel and material.

The Petit Journal of Sept. 27 said :—

The victory proves what can be done by will power, energy, valour, and pride. It is due not alone to the pilot, however much he may call for admiration, but above all to the British aeronautical organisation.

Mr. William Preston, M.P. for the borough of Walsall, sent the following telegram to Flt. Lt. Webster :—

Sportsmen of Walsall are proud of you. You have made the name of Walsall famous throughout the World

The Air League of the British Empire sent the following telegram to the A.O.C. Schneider Team at Venice :—

The Air League of the British Empire wish to congratulate you and the British Schneider Cup Team on their magnificent achievement. Secretary-General, Air League, Astor House, Aldwych.

The following messages have been received at the office of THE AEROPLANE for distribution :—

New York.—Please express through your paper to pilots and motor and plane constructor of England heartiest congratulations of Curtiss Company on glorious victory at Venice.—Keys.

Long Island City.—Please convey to British Schneider Cup Team and to Supermarine my sincere congratulations on their superb victory and astounding achievement.—Chance Vought.

From Leipzig comes this message :—

I congratulate you upon your country's great success in the Schneider Cup Race. Webster's times in a steady proportion are wonderful — Ernst (Major A. D.).

DRAMATIS PERSONÆ.

The winning of the Schneider Trophy has been attributed to team work. No truer word has been spoken about it. And in the interests of history the names of those who contributed to the victory deserve to be recorded. Everybody knows the names of the pilots who composed the team, but there are many others whose work was as essential to winning the one remaining international Trophy which is still of World-wide interest.

If we had had any one wealthy sportsman in this country sufficiently interested in aviation the Trophy could have been won with his money and with the assistance of very few individuals. If the Society of British Aircraft Constructors had been possessed by a spirit of real co-operation it could have been won with money subscribed by the members of that Society themselves. As it is, the real winner of the Schneider Trophy is John Citizen. But he only appears in Strube's wonderful cartoon in *The Daily Express* as congratulating the pilots.

Apart from John Citizen, the first credit of the victory must go to the members of the Air Council, who succeeded in defeating the Treasury and in extracting enough money to pay for the production of the machines on which the British team were mounted.

After the Air Council, credit must be given to the two Air Members for Supply and Research, Air Vice-Marshal Sir Geoffrey Salmond, K.C.B., K.C.M.G., D.S.O., who initiated the work last year; and Air Vice-Marshal Sir John Higgins, K.B.E., D.S.O., who saw it through from the beginning of this year to its ultimate success.

Following them, honour is due to the Department of Technical Development, in which Mr. J. S. Buchanan and Major R. E. Penny were particularly concerned with the production of these machines. With them were associated at Venice Mr. L. P. Coombs, the technical man from Felixstowe, and Mr. Forsyth, of the Engine Section.

The Civil Aviation side of the Air Ministry was ably represented at Venice by Sir Philip Sassoon, Bart., G.B.E., C.M.G., M.P., our Under-Secretary for Air, whose knowledge of the Italian language and experience of dealing with officials of other countries, acquired as Military Secretary to Sir Douglas Haig during the War, was of the highest value; and Air Vice-Marshal Sir Sefton Brancker, K.C.B., A.F.C., who has done so much for British Civil Aviation.

Next in the official scale comes the team itself, with Air Vice-Marshal F. R. Scarlett, C.B., D.S.O., in supreme command; Sq. Ldr. L. H. Slatter, O.B.E., D.S.C., A.F.C., in



THE BRITISH TEAM.—Left to right. Sitting.—Mr. Coombs, Mr. Forsyth, Flg. Off. Schofield, Flt. Lt. Kinkead, Wing-Cdr. Fletcher, Flt. Lt. Worsley, Air Vice-Marshal Scarlett, Flt. Lt. Webster, Sq. Ldr. Slatter, Flg. Off. Moon, Mr. Buchanan, Mr. Ransom. Standing (behind Wing-Cdr. Fletcher), Mr. Scott, Sir Harry Brittain, Mr. Vane, Mr. Folland, Mr. Mitchell, Sq. Cdr. Bird, Mr. Smith. Above and on each side, the engineers of the Supermarine and Gloster firms and the aircraftmen of the Royal Air



RELIABLE AND EFFICIENT AIRSCREWS

For the 2,500 miles air route operated by Imperial Airways Ltd., between Cairo and Karachi, the **HIGHEST DEGREE OF EFFICIENCY** in aircraft and equipment is absolutely essential. The airscrews are supplied by this Company also for the existing passenger services of Imperial Airways, in addition to **Sir Alan Cobham's recent Australian, Indian and South African Flights. The recent Hawker-Horsley Flight (Carr & Gillman), from Cranwell to the Persian Gulf, approximately 3,500 miles, used Airscrew Co.'s Propeller, which did NOT fail.**

THE AIRSCREW COMPANY,
WEYBRIDGE, SURREY.
Weybridge 705.

charge of the pilots; and then the pilots themselves: Flt. Lt. S. N. Webster, A.F.C., the pilot of the Supermarine S.5, with the geared Napier, the winner; Flt. Lt. O. E. Worsley, the pilot of the Supermarine S.5 with the direct-drive Napier, which was second, and the only other survivor of the six starters; Flt. Lt. S. M. Kinkead, D.S.O., D.S.C., D.F.C., the pilot of the Gloster, with the geared Napier, which was the second fastest machine in the race; and Flg. Off. H. M. Schofield, the reserve pilot. To them must be added Flying Officer T. H. Moon, a qualified engineer officer (despite the critics of the Air Force), in command of the R.A.F. aircraftmen who worked on the machines so ably alongside the mechanics of the constructing firms.

The three pilots who flew in the Contest would be the first to disclaim that any of them is the best pilot in the Royal Air Force. They were not selected as the result of any competition. They were merely chosen as men who were known to be first-class pilots. And probably out of the 3,000 officers in the Royal Air Force 300 could be found who on the same machines would put up equally fast times.

They themselves regard their selection for the team rather as a kindly act of Fate than as the result of their own outstanding merit. Nevertheless, knowing them all personally, one can say without fear of contradiction that no better selection could have been made. In skill, physique, and, above all, in their mental outlook on the Force in which they have the honour to serve, no more worthy representatives of the R.A.F. could have been found.

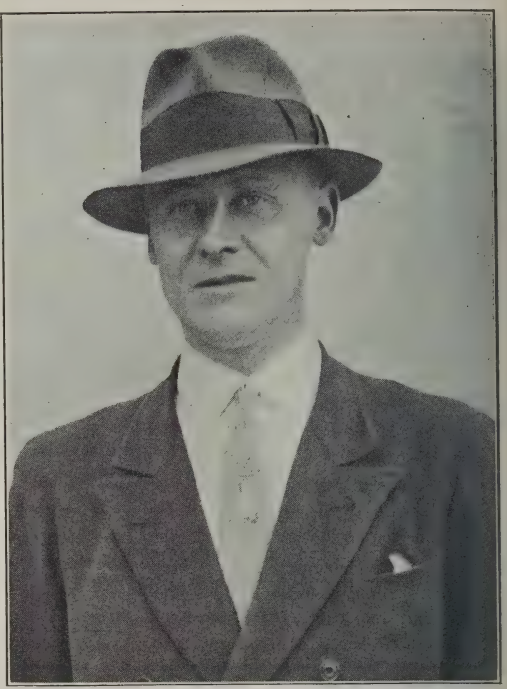
Good work was done in preparing the way for the team, and in liaison work afterwards by Wing Comdr. J. N. Fletcher, A.F.C., our Air Attaché at Rome, and his civilian assistant, Mr. Reason, to whom everybody in the team are indebted.

Next in order must come D. Napier and Son, Ltd., who, by equipping the machines of two different firms with power-plants of such equal merit, have disproved the axiom that no man can serve two masters. Whether in its geared or un-geared style, and whether in a Supermarine or a Gloster, the Napier engine has now definitely proved itself to be the best speed engine in the World.

To give honour where honour is due, first credit must go to Mr. H. T. Vane, who years ago took the then perilous step of staking the Napier Company's very existence on the success of its aero engines. For the early success of the Napier Lion the credit for the original designs must go largely to Mr. Montagu Napier. That credit he shares with Mr. A. J. Rowledge, who, besides doing the original design work, was responsible for all further developments in design until he left the firm in 1921.



Squadron Commander James Bird, Managing Director of the Supermarine Aviation Works Ltd.



Mr. R. J. Mitchell, designer of the Supermarine S.5.

For the various alterations in design since that date and the very important developments which have produced the present extraordinarily efficient racing engines the credit is due to Mr. G. H. Wilkinson, an engineer of high ability and extreme modesty, whose name is hardly known outside the small circle of engineers who are particularly concerned with aero-engines. And a large share of the credit must also go to Mr. George Pate, Director and Chief Engineer of the firm.

The installation of the engines in the machines at Venice, as explained hereinbefore, was in the hands of Mr. E. Scott and Mr. R. E. G. Smith, both Inspectors at the Napier Works; and Mr. J. E. Oram, a Napier artificer, selected for his particular skill. On these three was cast directly the ultimate responsibility for the perfect installation and running of the engines which actually competed. And so to them must go the last word of credit for winning the Trophy. If any one of them had made a mistake the coveted Trophy would not now be in our care.

Next in order must come the Supermarine Aviation Works Ltd., as the producers of the winning machine. Again, as in the case of the Napier Company, the first credit must go to the Chairman and Managing Director of the firm, Squadron-Commander James Bird, late R.N., who, having achieved notable successes in the building of big flying-boats, decided to go to the other end of the scale and build single-seat racing machines. The little Supermarine flying boat in which Mr. H. C. Biard won the Schneider Trophy in 1922 was built as a lone-hand sporting effort by the Supermarine company, and the firm had no financial support of any kind from the British Government, or from anybody else. For the decision which the firm then took Sq. Cdr. Bird shares the honour with Mr. Hubert Scott-Paine.

For the latter decision, which resulted in the building of the Supermarine S.4 in 1925, Sq. Ldr. Bird alone is responsible, and he thoroughly deserves all the congratulations which he has received on this year's victory.

Thanks to the policy of the Supermarine Directors, Mr. R. J. Mitchell, now himself a Director of the firm and its Chief Engineer, received his chance, and in him the British Aircraft Industry has one of the outstanding aircraft designers of the World. Mr. Mitchell is only known because of his achievements as a designer. His products speak for him, for he himself is one of the most modest and retiring of men. Moreover, unlike many men who have achieved much, he is convinced that he still has even more to learn. And for that reason one regards him not merely as one of the finest designers we have ever had, but as a man who is going to do still greater work.

Those in charge of the Supermarines in Venice must also



THE BLUE RIBAND OF THE AIR

Schneider Cup

won for Britain on

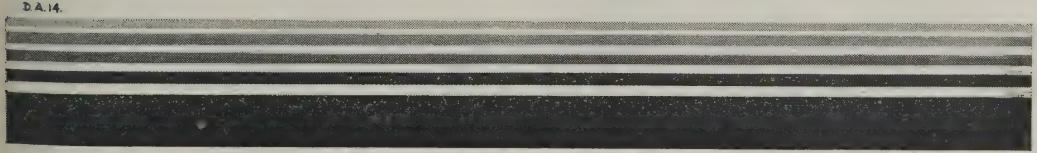
Pratts

This great triumph, won by Flight-Lt. S. N. Webster, A.F.C., flying a Napier-Lion Engined Supermarine S.5, on Pratts Ethyl Petrol, is the culminating achievement of a record-breaking year of successes on PRATTS



Supreme in Air, on Land and Water

D.A.14.



be named as directly responsible for the victory. Mr. A. Powell, who was in charge of the machines and the Supermarine personnel, was unfortunately taken ill as soon as the team arrived in Venice, but he was very largely responsible for the preliminary work at Calshot.

The others of the crew were Messrs. B. Pickett, B. Tozer, G. Pearson and B. B. Brown, who were responsible for engine installation; Mr. G. Broome, the rigger, and Mr. H. Grimes, the pilot of the Supermarine Company's own launch, on whom depended the welfare of the machines afloat.

Lastly but by no means least come the Gloster Company to whose directors, Mr. A. W. Martyn and Mr. David Longden, the British Aircraft Industry owes much because of the tens of thousands of pounds which they have spent in the last eight years on developing racing machine after racing machine, from the old original Bamel onward, when no other firm in this country, always excepting the Supermarine and the late lamented Martinsyde Company, had the energy or initiative to compete in the international races abroad.

The credit for the design of all these Gloster racing machines and for the second fastest machine in this year's contest, belongs to Mr. H. P. Folland, the firm's Chief Engineer and Designer. With him must be coupled Mr. H. E. Preston, the firm's Assistant Engineer and Designer. Also, one learns entirely unofficially that a share at any rate of the credit for the very fine design of this year's Glosters belongs to Mr. Hubert Martyn, a nephew of Mr. A. W. Martyn, who, until he retired recently owing to illness, was Managing Director of the firm, and was also a director of H. H. Martyn and Co., Ltd., of Cheltenham, from which the Gloster Aircraft Co. Ltd. was generated.

Those who actually went to Venice, and were therefore responsible for the final touches to the machines, were Mr. B. G. Fielding as Inspector-in-Charge; Mr. C. Ambrose, in charge of piping and cowling; Mr. P. Turner, in charge of engine installation; Mr. W. S. Trenhaile, in charge of rigging; and Mr. J. W. Johnstone, his assistant.

One must also mention that the higher command of the Gloster Company was represented in Venice by Mr. H. Burroughes, one of the Directors, who was a member of the Schneider Committee, and Capt. L. W. Charley, O.B.E., the firm's foreign representative.

The unfortunate mishap which put the Gloster out of the race was just one of those things which foresight cannot prevent. Everybody connected with the Gloster machine did his duty faithfully and well. And each individual may fairly take his share in the honour of winning the Trophy.

As the contest for the Schneider Trophy is ostensibly a purely sporting event under the control of the *Fédération Aéronautique Internationale*, actually the only people who are officially recognised as representing Great Britain are the Royal Aero Club. If there had been any argument over the contest the Royal Air Force would have had no *locus standi*. On this happy occasion one is glad to say that the Royal Aero Club did its work thoroughly well.

It was represented primarily by Lt.-Col. Mervyn O'Gorman, C.B.E., who ought by rights to have been one of our greatest diplomatists rather than the able engineer which he is. The Club was also represented by Capt. Charles Wilson, a member of the Racing Committee, who is equally highly regarded by our own people and by those of any country which he may visit. Mr. Harold Perrin, the Secretary of the Royal Aero Club, performed his duties, whatever they were, with his usual effectiveness. And those who are interested in figures will be grateful for the presence of Mr. George Reynolds, the official timekeeper of the R.Ae.C., who was able to correct one or two unfortunate slips which were made by the official timekeepers.

If one has omitted to give credit to anyone to whom credit is due the omission must be charged to one's ignorance of aviation and those concerned therewith.—C. G. G.

MATERIAL AIDS TO VICTORY.

Naturally enough, technical interest in an event of this nature is centred on the Supermarine monoplanes and the Gloster biplane and the Napier engine. Therefore one must draw attention to those accessories before and after the fact which helped to "make the wheels go round."

The airscrews of the Supermarines were made by the Fairey Aviation Co. Ltd. of forged Duralumin. How efficient they were can be judged by the fact that abstruse calculations show that the screw on the winning machine absorbed about 93 per cent. of the power of the engine.

As in all previous British victories in the Schneider Trophy Contest Cellon Dope was used on the winning machine. On reference to the 1914 volume of THE AEROPLANE one sees an advertisement to the effect that even as far back as that the winner used Cellon.

On the Gloster biplane, which was the second fastest machine in the race, Titanine Dope was used. The airscrews on the Glosters were of the firm's own design and make.

The instruments on all the British machines naturally enough were Smiths. This is always the case in big British successes—and little ones, too, for that matter.

The plywood used on all the British machines was Mallite, made by the Aeronautical and Panel Plywood Co. Ltd.

Brown Bros. supplied all the standard metal parts, such as nuts, bolts, forks, screws, etc.

Of the Napier engines the great firm of Vickers Ltd. supplied the steel for the crankshafts and connecting rods. It may be recalled that they also supplied the crankshaft of the Fiat engine which won the event last year.

Naturally, all the Duralumin in all the machines was Vickers Duralumin, made by James Booth and Co. Ltd., of Birmingham.

H. M. Hobson Ltd. supplied the Claudel Hobson carburettor. This carburrettor has always been a standard fitting to the Napier Lion engine.

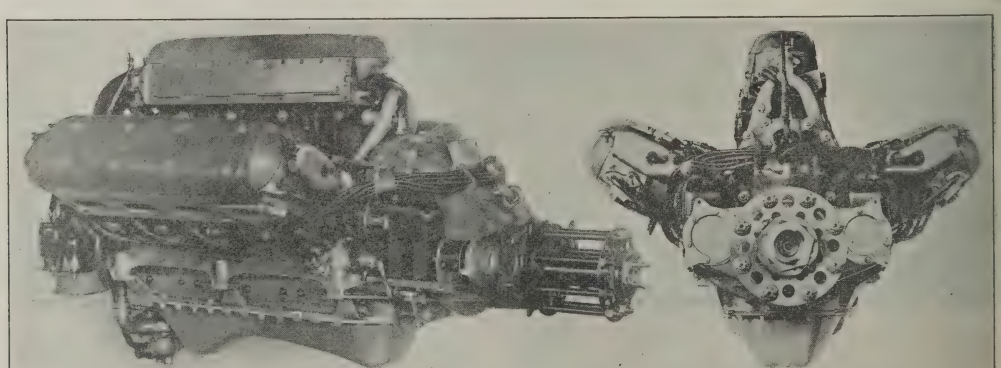
One of the greatest triumphs is to the credit of the K.L.G. sparking plugs. It has been common knowledge for some time that there was great difficulty in getting any plugs to stand up satisfactorily to the high revolutions and the high compression required. For months past work has been proceeding at the well-known Robinhood engineering works on the Portsmouth Road, where K.L.G. plugs are made. On a visit to those works at least a year ago one was shown experimental plugs for these engines, and how satisfactory were the results of this work can be seen from the fact that every K.L.G. plug in every engine functioned satisfactorily throughout the contest

The K.L.G. plugs were fed by Watford magnetos, which have been coming to the fore lately in aviation. It may be recalled that a Watford magneto was fitted to the Cherub which won the last light aeroplane competition at Lympne.

The exhaust valves were made of Hadfields Era A.T.U. steel, made by Hadfields Ltd., of Sheffield. This is very satisfactory, for Sir Robert Hadfield's personal interest in aviation is well known.

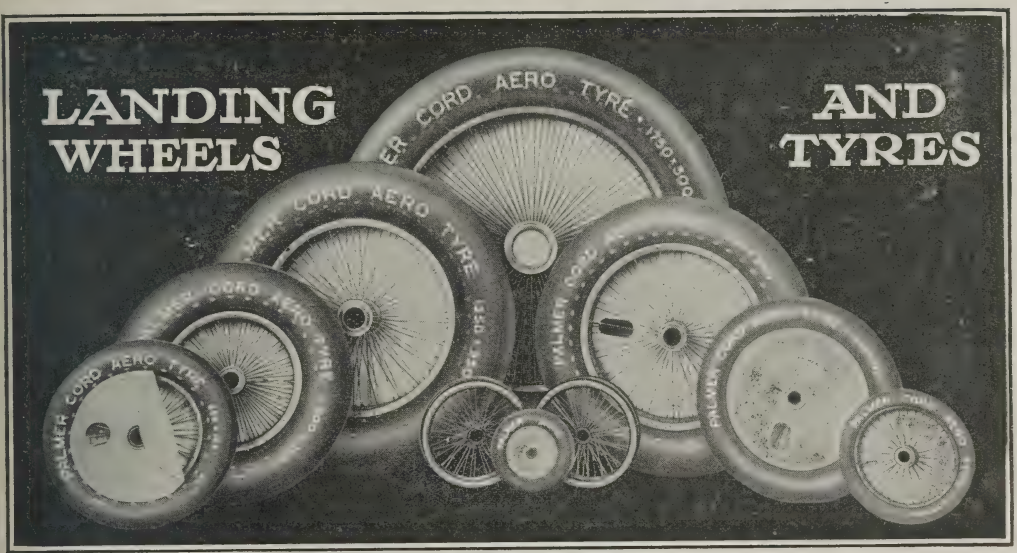
The petrol was Pratts, now famous "Pink gin." This is the new "S.A.M." aviation spirit mixed with Tetra-ethyl-lead solution (commonly called "Ethel" for short), for which the Anglo-American Oil Company, the distributors of Pratt's, hold the sole rights in this country.

Last, but very far from least, Castrol Oil was used, supplied by C. C. Wakefield and Co. Ltd. Castrol, like Cellon, has been used on every British machine which has won the Schneider Trophy.—G. D.



THE VICTORIOUS NAPIER LION.—The new specially-geared racing engine which won the Schneider Trophy.

PALMER



Congratulations

to

Flight-Lieutenant Webster
on his wonderful achievement,

Congratulations

to the constructors and designers of the seaplane which carried him to success,

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THE PALMER TYRE LIMITED,

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(497)

KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

THE HOME-COMING OF THE VICTORS.

The Schneider Team consisting of Air Vice-Marshal Scarlett, Sq. Ldr. Slatter, Flt. Lts. Webster, Worsley and Kinkead and Flg. Off. Schofield, arrived at Croydon at approximately 14.30 hours on Saturday, Oct. 1, in the Imperial Airways liner G-EBLO, Armstrong-Whitworth Argosy (Jaguar engines) piloted by Mr. Youell. The weather was of the very worst and others who travelled in the same machine suggested that some members of the team were afflicted with the common human malady of air-sickness.

Just why the team should have been compelled to come from Paris by air is not very clear. One imagines that it must have been an Air Ministry Order in response to the popular newspaper clamour for the public arrival of the heroes of the day. It was an entirely unnecessary piece of cruelty. The only thing that an experienced pilot hates more than being piloted by somebody else, is being shut up in a closed cabin. It is several degrees worse than being driven by somebody else in a closed car after one has been accustomed to driving open speed cars.

One is fairly sure that the members of the team strongly objected to the publicity which they received. And certainly their terse replies to newspaper people craving interviews must have been enough to prove even to the intelligence of Fleet Street that officers of the Royal Air Force have no desire to be put in the same class as movie stars. Nothing could have been more proper than the reticence of all members of the team.

One hopes that now Fleet Street will believe that other officers of the Royal Air Force who have avoided publicity have acted according to their own wishes and have not been muzzled by the Air Ministry.

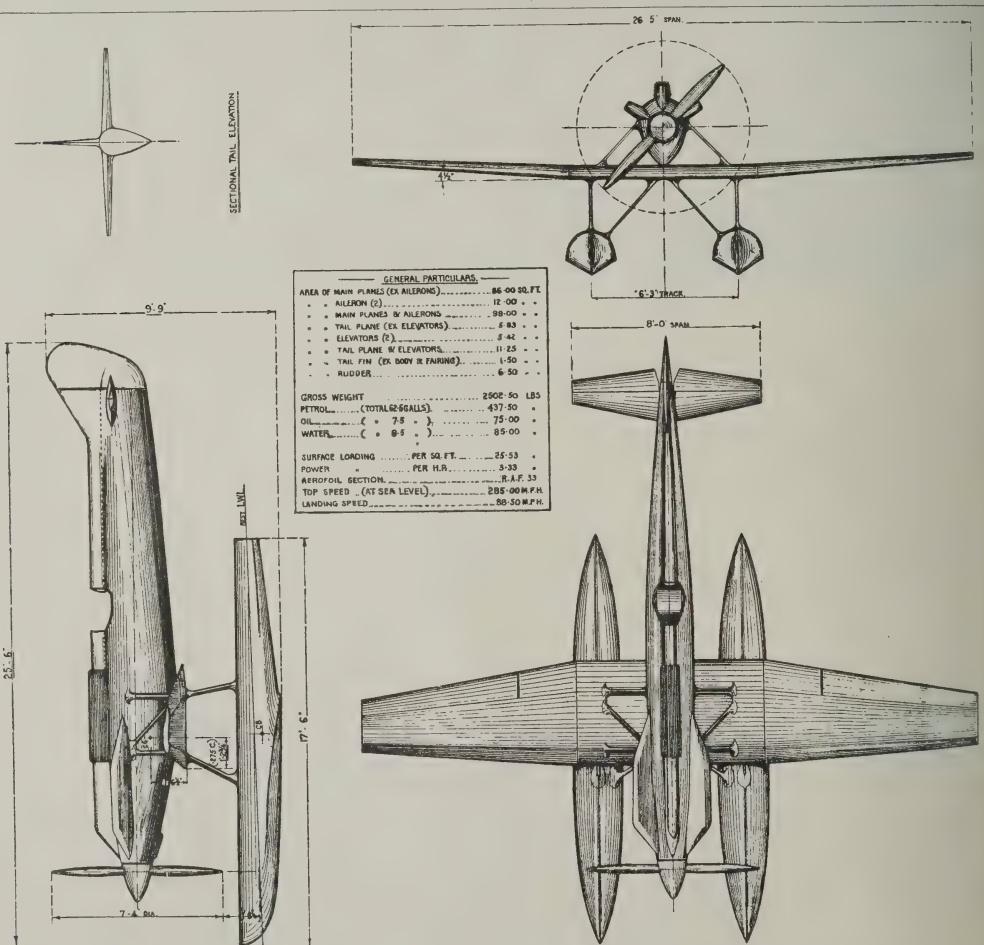
Despite the weather a couple of thousand people turned up at Croydon to see the team arrive, with very nearly as many policemen to keep them in order. As the affair worked out, the police nearest the machine were among the most enthusiastic welcomers of the team.

After they had de-planed the team were driven past the public enclosures in a car, in obedience to the power of the Press. After that they were allowed to go home in peace.

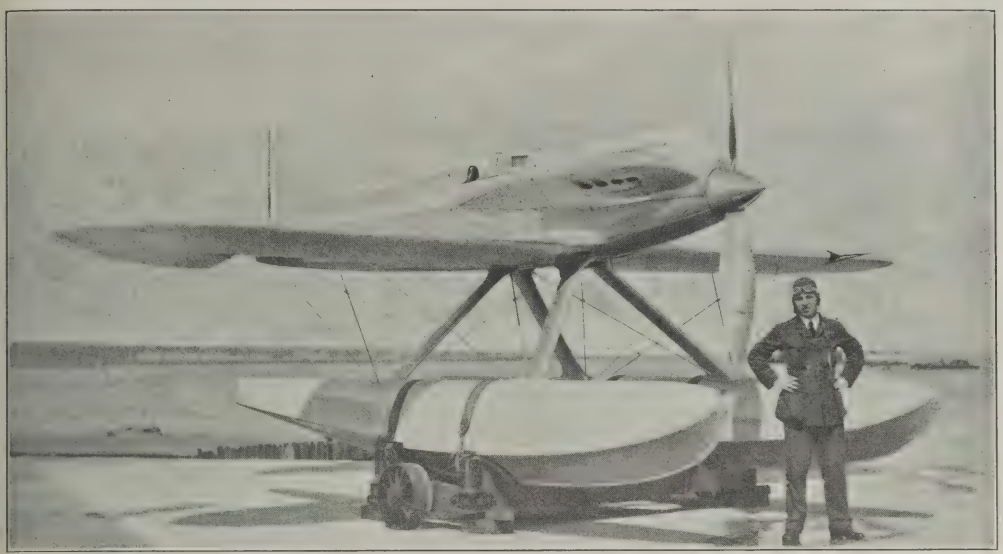
THE OFFICIAL WELCOME.

The team were welcomed officially by the Air Ministry at a lunch at the Savoy on Tuesday, Oct. 4. Sir Samuel Hoare, who presided, referred to the fact that after welcoming many notable civilian pilots we were now meeting a team of military pilots. In his toast to the team he included all those who helped—the designers of machines and engines (Messrs. Mitchell, Pate and Wilkinson), the Royal Aero Club, the officers and men of the Royal Navy, and last, but not least, the Air Ministry, from Sir John Higgins downward. He hoped the team spirit would always be maintained.

He said that we had beaten a most formidable and sportsmanlike team, and that the cordial feelings between the



WHAT MIGHT HAVE BEEN.—General Arrangement drawings to scale, of the machine designed by Mr. S. E. Saunders and Mr. Percy Beadle for the Schneider Contest last year. The construction of the machine was cancelled because the Royal Aero Club refused to send in an entry. The flat back, clean under-side, and small frontal area are worth noting in view of this year's winning design. Considering that this design was produced early in 1926 it shows remarkable foresight, and, if it had been built, it should have gone very near winning.



SCHNEIDER CUP.

1st. *SUPERMARINE NAPIER S.5./25.*
Lieut. S. N. Webster, A.F.C., R.A.F.

2nd. *SUPERMARINE NAPIER S.5./21.*
Lieut. O. E. Worsley, R.A.F.

The Supermarine Aviation Works use "Cellon" Dope and "Cerric" Lacquers for their Aircraft. D. Napier & Sons use "Cerric" to protect the Lion Engines.

CELLON

The Dope of Proved Efficiency.

CELLON (Richmond) LIMITED.

Cellon Works, Petersham Road, Richmond, Surrey.

Telegrams: Ajawb, Richmond, Surrey. *Telephone: Richmond 2211 (4 lines).*

Regia Aeronautica and the R.A.F. were the best evidence of sportsmanship. He thanked our Italian friends for their hospitality, and rejoiced that our winning did not cause a shadow of bitterness and jealousy.

Sir Samuel offered our thanks to His Excellency Mussolini, who, he said, had seen with an eagle eye the possibilities of aviation, and to General Balbo, his able lieutenant, who had set a task to all Air Ministers by combining the laurels of the politician with the wings of a pilot.

From the race, Sir Samuel said, all his experts agreed that we had learned invaluable lessons. It was a triumph of brain over the brute forces of Nature. Our pilots had shown that the young Englishman of to-day could achieve feats impossible a few years ago. They were typical of our Air Force. Our designers had triumphed over all obstacles.

Sir Samuel ended by conveying to Flt. Lt. Webster the King's personal congratulations, and by announcing that the King had conferred on him a bar to the Air Force Cross, which he already held.

Air Vice-Marshal Scarlett, replying, said that the team were proud of being selected to represent this country. He congratulated Sq. Ldr. Slatter, who, he said, flew as well as any of the team, but was wanted for ground organisation—for which job he had a particular talent. He thanked the "contractors" and their employees, and said it was a pleasure to work with them. As to the race, he said that the cornering of our pilots would have won them the race if the machines had been equal. And he said that Flt. Lt. Kinkead had remained in the race till a few more revolutions would have been the end of him. Hundreds of others in the R.A.F. would have welcomed such opportunities. He thanked the Italians for the sportsmanlike way they gathered at their own Air Station to congratulate our team on our victory.

Flt. Lt. Webster said that this was not an individual victory. He merely had the luck to be given the fastest machine. He said he was sorry they had not their mechanics with them at Croydon to share their welcome. He hoped to be selected again to meet the best sportsmen anybody could wish to meet.

General Guidoni, whose health had been proposed by Sir Samuel Hoare, expressed Italy's pleasure at meeting our team, and said that the best machines won.

General Seely proposed Sir Samuel Hoare's health, which was drunk with acclamation.

THE SCHNEIDER BANQUET.

The Royal Aero Club, the Royal Aeronautical Society (incorporating the Institution of Aeronautical Engineers), the Air League of the British Empire, and the Society of British Aircraft Constructors, will hold a banquet at the Savoy Hotel on Tuesday, Oct. 11, at 7.30 p.m., to celebrate the British Victory in the Schneider Trophy Contest.

The price of tickets will be £1 1s. each (exclusive of wines).

Members of the above-mentioned societies are requested to make early application for tickets to the Royal Aero Club, 3, Clifford Street, London, W.1.

SOME RECEPTION.

A telegram from Southampton received as THE AEROPLANE was going to press, reads :—

Commander Bird, Mitchell and Ransom of A.I.D. received great ovation Sunday afternoon at West Station from Mayor, hundreds of townspeople, and whole of Supermarine employees. Reception was Hell in Mayor's Parlour.

Doubtless the word "Hell" was a telegraphic misprint for "held." But, accepting the word in its colloquial connotation probably it describes almost adequately a thoroughly cheery greeting such as the returned conquerors deserved.

THE ROYAL AIR FORCE.

The London Gazette.

Sept. 27.

GENERAL DUTIES BRANCH.—P. N. Sealy-Allin is granted a perm. comn. as Plt. Off. with effect from Sept. 17, and with seniority of Sept. 17, 1926; C. R. Shillingford is granted a S.S. comn. as Plt. Off. on probation with effect from July 19, and with seniority of July 18.

The following are granted S.S. comns as Plt. Offs. on probation with effect from and with seniority of Sept. 2 :—C. H. Appleton, B. E. Brown, M. C. Collins, T. A. D. Hetherington, H. G. Hicks, L. W. Howard, C. R. M. Kiernander, P. F. Luxton, J. E. Markby, K. C. T. Marshall, W. D. J. Michie, C. L. Myers, C. A. Pearson, H. L. Piper, J. C. K. Rogers (A./Sub-Lt., R.N.R.), J. W. Smith, P. H. Smith, R. W. K. Stevens, J. C. B. Tinling, A. Le R. S. Upton, J. B. Veal. Arthur Donald Bennett is granted a S.S. comn. as Plt. Off. on probation with effect from Sept. 7, and with seniority of Sept. 2. The following are granted S.S. comns. as Plt. Offs. on probation with effect from Sept. 8, and with seniority of Sept. 2 :—L. V. Bennett, F. Wells. The following are granted S.S. comns. as Plt. Offs. on probation with effect from Sept. 9 and with seniority of Sept. 2 :—J. A. Greenshields, D. M. Harrison (R.A. (T.A.)), N. F. V. Henkel.

The following Plt. Offs. are promoted to the rank of Flg. Off. (June 16) :—R. F. Shenton, H. W. Pearson-Rogers. The following Plt. Offs. on probation are confirmed in rank :—B. W. Barton, H. B. Collins, C. E. Kay, F. H. L. Searl, W. T. Walton, A. R. Ward (July 14); G. Bartholomew, E. L. J. Rowe, V. D. Morshead, D. S. King, H. C. D. Hayter, F. G. Fairhead, G. R. Weighill (Sept. 18).

Flt. Lt. G. D. Daly, D.F.C., ceases to be seconded for duty under the Colonial Office (Sept. 13). (Substituted for notification in *London Gazette* dated Sept. 13.) Wing Cdr. R. M. Field ceases to be seconded for duty with the Finnish Government (Sept. 11); Flg. Off. W. F. Parkinson takes rank and precedence as if his appointment as Flg. Off. bore date Feb. 28, immediately following Flg. Off. J. N. Young on the gradation list. Reduction takes effect from Sept. 2.

Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., is placed on the half-pay list, Scale A (Aug. 19); Flg. Off. G. A. Kysh is transferred to the Reserve, Class C. (Oct. 1); Flt. Lt. J. W. Young, M.B.E., resigns his perm. comn (Sept. 7).

STORES BRANCH.—Flt. Lt. A. J. Roberts is transferred to the Reserve, Class B. (Oct. 1).

ACCOUNTANT BRANCH.—Flt. Lt. J. Baines is transferred to the Reserve, Class C. (Oct. 1).

MEDICAL BRANCH.—Flt. Lt. P. D. Barling, M.B., is granted a perm. comn. in this rank (Sept. 28).

RESERVE OF AIR FORCE OFFICERS.—GENERAL DUTIES BRANCH.—The following Flg. Offs. are transferred from Class A. to Class C. :—W. H. Phillips (Apr. 12); A. E. de M. Jarvis, D.F.C. (June 24). Flg. Off. D. A. Watson is transferred from Class B. to Class C. (Sept. 18). The following relinquish their comns. on completion of service :—Flt. Lt. F. Hudson, M.C. (Sept. 12); Flg. Off. W. J. Metcalfe (Sept. 18); Flg. Off. J. C. Burney-Cumming (Sept. 25). The comn. of Plt. Off. on probation E. A. Buchan is terminated on cessation of duty (Sept. 3).

AUXILIARY AIR FORCE.—GENERAL DUTIES BRANCH.—The following to be Plt. Offs. :—No. 605 COUNTY OF WARWICK (BOMBING) SQUADRON.—M. V. de Satge (July 24); J. C. Rowland (July 24); J. A. Edwards (Aug. 3). No. 601 COUNTY OF LONDON (BOMBING) SQUADRON.—S. A. Morse (Aug 5).

Appointments.

Week ending Oct. 3, 1927.

GENERAL DUTIES BRANCH.—Squadron Leaders W. H. L. O'Neill, M.C., to Aircraft Depot, India, 20/9. C. R. Cox, A.F.C., to No. 47 Sqdn., Egypt, 15/9. A. A. B. Thomson, M.C., A.F.C., to H.Q., 'Iraq, 20/9. C. B. Dalison, A.F.C., to Aircraft Depot, 'Iraq, 20/9. H. L. Hanmer, D.F.C., A. T. Williams, O.B.E., and R. H. M. S. Saundby, M.C., D.F.C., A.F.C., to R.A.F. Staff College, Andover, 19/9.

Flight Lieutenants C. Turner, A.F.C., to Air Ministry (Directorate of Technical Development), 26/9. G. D. Daly, D.F.C., to Home Aircraft Depot, Henlow, 12/9. L. R. Briggs, to No. 407 Flight, Donibristle, 1/9. J. H. Hagon and C. F. Toogood, to Armoured Car Wing, 'Iraq, 20/9. D. R. W. Thompson, J. H. Butler and T. A. Warne-Browne, D.S.C., to H.Q., 'Iraq, 20/9. V. S. Parker and A. Leach, M.C., to No. 55 Sqdn., 'Iraq, 20/9. A. Jerrard, V.C., to Aircraft Depot, 'Iraq, 20/9. K. L. Harris and H. G. Rowe, to No. 47 Sqdn., Egypt, 17/9. H. E. Walker, M.C., D.F.C., to No. 2 Armoured Car Coy., Palestine, 19/9. G. P. H. Carter, to H.Q., Transjordan and Palestine, 19/9. A. P. M. Saunders, B. J. Silly, M.C., D.F.C., F. W. Walker, D.S.C., A.F.C., M. Moore, O.B.E., W. F. Dickson, D.S.O., A.F.C., P. H. Mackworth, D.F.C., J. W. Jones, A. O. Lewis-Roberts, D.F.C., J. J. Lloyd-Williams, M.C., V. E. Groom, D.F.C., C. P. Brown, D.F.C., A. P. Ritchie, A.F.C., E. J. Kingston-McCloughry, D.S.O., D.F.C., to R.A.F. Staff College, Andover, 19/9. A. H. Beach, to No. 58 Sqdn., Worthy Down, 26/9. H. S. Broughton, M.C., D.F.C., to No. 99 Sqdn., Bircham Newton, 10/9. S. M. Park, to School of T.T. (Men), Manston, 22/9. T. B. Bruce, M.C., to Station Flight, Upper Heyford, 16/9.

Flying Officers C. Lloyd, to R.A.F. Depot, Uxbridge, 5/9. G. J. Southam, to Home Aircraft Depot, Henlow, 29/8. O. B. Swain, to No. 5 Sqdn., India, 20/9. R. S. Blucke, to No. 31 Sqdn., India, 20/9. F. J. Fressanges and H. G. Wisher, to Aircraft Depot, India, 20/9. J. G. Franks, to No. 407 Flight, Donibristle, 1/9. E. A. Swiss, to No. 462 Flight, 1/9. E. M. Thompson, to No. 405 Flight, 1/9. (Hon. Flt. Lt.) C. W. Croxford, D.S.C., to R.A.F. Depot, Uxbridge, 1/7. F. V. Beamish, to R.A.F. Cadet College, Cranwell, 16/9. H. D. Mitchelmore, to R.A.F. Depot, Uxbridge, 15/9. J. A. P. Harrison and A. W. A. Ricks, to No. 47 Sqdn., Egypt, 19/9. P. de C. Festing-Smith, to No. 14 Sqdn., Palestine, 19/9. D. M. Rees, M.B.E., and F. Fazey, to Aircraft Depot, 'Iraq, 20/9. E. C. Barlow, to Armoured Car Wing, 'Iraq, 20/9. (Hon. Flt. Lt.) C. W. Croxford, D.S.C., and G. W. Hayes, to No. 55 Sqdn., 'Iraq, 20/9. (Hon. Flt. Lt.) W. B. O. Fox and R. Kellett, to No. 84 Sqdn., 'Iraq, 20/9. M. C. W. C. Flint, M.C., to H.Q., 'Iraq, 20/9. J. T. Riggs, to No. 30 Sqdn., 'Iraq, 20/9. J. G. Parkin and C. H. L. Evans, to No. 6 Sqdn., 'Iraq, 20/9. C. A. Anderson, to No. 70 Sqdn., 'Iraq, 20/9.

Pilot Officers R. J. Stone, to Armoured Car Wing, 'Iraq, 20/9. L. E. R. Fisher, M.C., and G. Selk, to No. 6 Sqdn., 'Iraq, 20/9. J. Constable-Roberts and G. Francis, to No. 481 Flight, Mediterranean, 17/9. B. A. J. Crummy, to No. 70 Sqdn., 'Iraq, 5/9. L. G. Martin, to R.A.F. Base, Calshot, 16/9. P. N. Sealy-Allin, to No. 5 F.T.S., Sealand, on appointment to a Perm. Comn., 17/9. The undermentioned Pilot Officers are posted to No. 5 F.T.S., Sealand, with effect from 17/9 :—C. R. Shillingford, C. H. Appleton, B. E. Brown, M. C. Collins, T. A. D. Hetherington, H. G. Hicks, L. W. Howard, C. R. M. Kiernander, P. F. Luxton, J. E. Markby, K. C. T. Marshall, W. D. J. Michie, C. L. Myers, C. A. Pearson, H. L. Piper, J. C. K. Rogers, J. W. Smith, P. H. Smith, R. W. K. Stevens, J. C. B. Tinling, A. le R. S. Upton, J. B. Veal, A. D. Bennett, L. V. Bennett, F. Wells, J. A. Greenshields, D. M. Harrison and N. F. V. Henkel.

MEDICAL BRANCH.—Squadron Leaders J. Rothwell, M.B., W. G. L. Wambeek and D. G. Boddie, M.B., to H.Q., 'Iraq, 20/9.

Flight Lieutenant C. T. O'Neill, O.B.E., M.B., to H.Q., India, 20/9. C. V. D. Rose, to R.A.F. Depot, Egypt, 27/8.

Flying Officers J. E. Foran, M.B., to Heliopolis Details, 25/8. G. S. Strachan, M.B., to R.A.F. Station, North Weald, 9/10. G. E. Church, M.B., P. H. Perkins, R. A. W. Kerr, M.B., R. Thorpe and E. J. T. McWeeney, M.B., to H.Q., 'Iraq, 20/9.

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Stores Branch.—Flight Lieutenants J. H. Dale, to Aircraft Depot, India, 20/9. E. H. Eldridge, to Supply Services, 'Iraq, 20/9.

Flying Officers F. W. Felgate, to No. 30 Sqdn., 'Iraq, 20/9. L. L. Bray, to No. 47 Sqdn., Egypt, 19/9. P. P. S. Rickard, to R.A.F. Station, Donibristle, 23/9. A. Amy, to Aircraft Depot, 'Iraq, 20/9.

Accountant Branch.—Flight Lieutenant H. G Bushell, to Armoured Car Wing, 'Iraq, 20/9.

Flying Officers K. A. Jackman, to Aircraft Depot, 'Iraq, 20/9. G. Goodall, to No. 84 Sqdn., 'Iraq, 20/9. C. F. Goatcher, to No. 45 Sqdn., Egypt, 19/9.

Chaplains' Branch.—The Rev. J. R. Walkey, M.A., to H.Q., Halton, 1/10. The Rev. W. T. Rees, B.D., to H.Q., Cranwell, 17/9. The Rev. J. A. Jagoe, M.A., to H.Q., 'Iraq, 20/9.

Air Co-operation with the Army.

In an interesting and informative article on "The Army in Training (1927)" in *The Times* of Sept.29 the writer states :—

Air Co-operation.—In face of severe handicaps, due to the despatch to China of *personnel* trained in co-operation with troops, the Royal Air Force has risen to the occasion and, with the aid of the Army Co-operation School at Old Sarum and the squadrons that have been working with the divisions, a good system has now been standardised. Training has thus been simplified, and continuity is ensured.

Air forces, in the first instance, have helped to abolish the warfare of vulnerable masses, and so have accelerated the introduction of armoured troops, with their smaller size and increased mobility. The air can help the smaller and more mobile armies by providing both information and rapid means of communication, and in due course aircraft may form a substitute for the vulnerable lines of communication and convoys of supplies which have caused constant anxiety to commanders operating in certain theatres of war.

An equally well-informed and interesting article on the Army Training appears in the *Army, Navy and Air Force Gazette* of Sept. 29. In this article referring to Air Co-operation, the Author says :—

The use of aircraft against tanks is still undecided. Air co-operation with the Army this year was not good. The weather took its share in reducing the powers of aircraft, but the personal element also helped. Pilots and observers said that mechanised forces provided poor targets, and, of course, tanks and tankettes are inaudible to watchers from above. Thus they may often escape observation. But there was no real test. It may be necessary to wait for a new war before a decision can be reached. At present it is clear that the only effective defence against armoured mechanical vehicles are other armoured mechanical vehicles. Day by day the analogy between tank warfare and naval warfare becomes closer.

A Link with Tradition.

Three of the original members of No. 43 Squadron, R.F.C., are presenting No. 43 (Fighter) Squadron, R.A.F., with a silver model of a Sopwith Camel, the first type of single-seater the Squadron had during the War 1914-18, as a link between the original Squadron and the existing one. No. 43 Squadron, R.F.C., was originally formed in April, 1916, and was disbanded in December, 1919. It was reformed on April 1, 1923, at Henlow, and is now stationed at Tangmere, Sussex, under the command of Sq. Ldr. A. F. Brooke.

The Return of the Valkyrie.

Owing to some extraordinary error in the the transmission of news from a source which is usually quite reliable, a statement appeared in The Aeroplane last week that the Saunders Valkyrie (three Condor engines), which was damaged by heavy seas off Königsberg during the recent Service cruise in the Baltic, was dismantled and brought back to England by sea transport.

One is glad to say that this story is entirely untrue. The Valkyrie, which has won golden opinions as a first-class flying boat, was put right in the Baltic by her own crew, under very difficult conditions, and arrived at Felixstowe on Sept. 28,—having flown there from Copenhagen that day.

THE AIR MINISTRY'S HYDROGEN-KEROSENE ENGINE.

The second report of the Select Committee on Public Accounts advances some criticism on the question of the purchase by the Air Department of a hydrogen-kerosene engine.

When the promoting company had spent £28,500 in developing the engine the Air Ministry purchased the rights for £10,500 and no work had been done on it since although certain modifications had been made. The Committee report states :—

Your committee are unable to express an opinion on the technical question of the value of an engine of this kind, but view this transaction with considerable misgivings, and they do not understand why, once the engine was purchased, its development was not pushed on at a greater rate. They trust to hear as the result of the trials to be held that the State has got value for this expenditure.

CANADIAN AIRCRAFT CONTRACTS.

The Times correspondent in Ottawa in a message dated Sept. 27 states :—

In pursuance of its more active air policy, the Government has placed an order for 26 aeroplanes, at a cost of $400,000 [£80,000]. The aeroplanes ordered include three Fairchild monoplanes, 12 Avro land machines, and two De Havilland machines.

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Longest solo flight on a light aeroplane — London to Cape Town—*made on*

SHELL AVIATION SPIRIT



LT. R. BENTLEY, of the South African Air Force, left London in a De Havilland "Moth," on the 1st September, and arrived at Cape Town (a distance of 8,500 miles) on the 28th September.

Throughout the flight he used straight Shell Aviation Petrol (unmixed with "dope" or any other fuel) which once again demonstrates the reliability of *straight* Shell.

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ANOTHER BRITISH RECORD.

One of the finest flights in the history of aviation, and quite the finest flight ever made on a light aeroplane, is that of Lieut. Richard R. Bentley, of the South African Air Force, from London to Cape Town, between Sept. 1 and Sept. 28, on a de Havilland Moth (Cirrus engine).

Unfortunately Mr. Bentley's magnificent performance has been overshadowed in the eyes of the World at large by the British victory in the contest for the Schneider Trophy. But at any rate he is a prophet with honour in his own country, and one hopes that his reception in Cape Town was at least equal to that given to the Schneider Team in London.

One believes that one is strictly correct in saying that his is the longest lone-hand flight on record. It is not the longest flight ever made in a single-seater, for Lieut. Ferrarin, now a Major, and Lieut. Masiero flew from Rome to Tokyo in 1920 in single-seaters, but they did at any rate travel in company nearly all the way. Similarly Messrs. Stack and Leete in their voyage to India in Moths flew single-handed but in company. Mr. Bentley's effort therefore stands out as the longest entirely solitary aeroplane flight irrespective of the size of the machine.

In a short speech at Johannesburg on Sept. 26, on his way through to Cape Town, Mr. Bentley said that the whole effect of his flight would be lost if it were treated as a wonder. In a way he is right. Such flights as his will some day be no more wonderful than is a 7,000 mile motor tour on the Continent of Europe to-day. Nevertheless World's Records are always wonderful despite the fact that the record of to-day is the ordinary performance of to-morrow. Therefore let us congratulate Mr. Bentley on his wonderful performance and hope that many sporting young South Africans of to-day will visit us by the same route in the near future.

His flight stamps Mr. Bentley as being worthy to rank with the World's great pilots. And once again the little de Havilland Moth with its simple A.D.C. Cirrus engine has proved worthy to rank with the World's great aeroplanes.

Mr. Bentley left Stag Lane Aerodrome on Sept. 1, and arrived at Cape Town at 2.35 p.m. on Sept. 28. He was received at the Wynberg Aerodrome by the Mayor of Cape Town, Officers of the South African Defence Force, a representative of the Commander-in-Chief, Africa Station, R.N., and the President of the Cape Town Aero Club.

Mr. Bentley's progress was as follows :—Sept. 1—Left Stag Lane : Sept. 2—Arrived Lyon.

Sept. 10—Arrived Heliopolis *via* Malta : Sept. 13—Left Heliopolis and arrived at Aswan : Sept. 15—Made a forced landing near Kosti : Sept. 17—Left Khartum and arrived Malakal : Sept. 18—Arrived Mongalla.

Sept. 19—Arrived Kisumu : Sept. 26—Arrived Johannesburg : Sept. 28—Arrived Cape Town.

On the last lap of the trip from Victoria West to Cape Town Mr. Bentley flew in the teeth of a 70 m.p.h. gale.



LONDON—CAPE TOWN.—Lieut. R. R. Bentley, S.A.A.F., on his De Havilland Moth, A.D.C. Cirrus engine.

Mr. Bentley's flight covered over 7,000 miles and puts up a long-distance "record" for a single-handed flight on a machine of this class.

The following telegram has been sent by Sir Samuel Hoare, the Secretary of State for Air, to the Minister for Defence of the Union of South Africa :

On behalf of the Air Council, I wish to congratulate the South African Air Force and Flt. Lt. Bentley on his strikingly successful flight from London to Cape Town. I hope this pioneer flight by a light aeroplane will help to stimulate the development of a regular through service by air between England and South Africa.

THE AERO CLUB OF KENYA.

According to *The East African Standard* of Aug. 16 an Aero Club of Kenya has been formed with the object of preparing the Colony for the introduction of modern methods of transport.

The Aero Club of Kenya has grown out of what was originally started as an ex-Flying Services Association. When the preliminary arrangements were being made to found this Association it was thought that greater scope and a wider field of work could be opened by changing the constitution of the body to include members of the general public.

Under the present rules therefore membership is open to three classes of members (1) those who have served in any capacity in one of the Empire Flying Forces, (2) those of the general public who are interested in aviation, and (3) distinguished persons whom the Club may invite to become honorary members.

For the present the control of the Club will be vested in the hands of the first class of members.

The Aero Club of Kenya intends to encourage the development of flying in Kenya, to establish the control of aviation in the Colony, and to arrange for the issue of pilots' certificates. A reference library of technical and non-technical aeronautical books and periodicals and as much information and data as can be accumulated will be available to members. The annual subscription will be 20s.

The Club hopes, later on, to be able to buy machines for instruction and hire. The Secretary is Capt. H. Dunkerley, A.F.C., c/o *The East African Standard*, Nairobi, Kenya.

FEATURING SIR ALAN COBHAM.

A private view of a film entitled "The Flight Commander" was given at the London Hippodrome on Sept 29. Why the film has been so named it is impossible to imagine. The plot, which is even more incoherent than film plots usually are, concerns the rescue by an air survey pilot of the white population of a small concession in China (?) from the fury of the native population by means of a well-directed bomb. The native population had been infuriated (one is of the opinion that they were justly incensed) by the antics of three blue-jackets, respectively French, American and English.

There is a sickly love-story running through the film and a good deal of tiresome slap-stick comedy by the blue-jackets. The best part of the film is the flying in a D.H.50 and a Moth by Sir Alan Cobham (who takes the modest part of the pilot) and a good close-up of a parachute drop.

Sir Alan Cobham, whose part in the romance itself is a subsidiary one, although he appears by name in the sub-heads and descriptions, is quite the most natural and convincing figure in the film probably because he does not attempt to "act" and is not required by his part to do anything idiotic. One hopes that the next time Sir Alan will be associated with a better film.—C. M. MCA.

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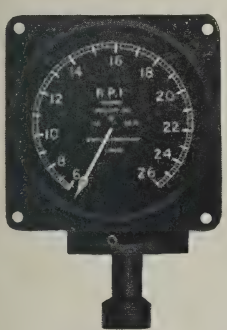
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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 28; Tuesday, 28; Wednesday, 25; Thursday, 21; Friday, 34; Saturday, 19; Sunday, 6.

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K.L.M.:
Amsterdam—Rotterdam—London: Machines 12, passengers 72, freight 3 tons.

SABENA:
Brussels—London: Machines 6, passengers 47

DEUTSCHE LUFTHANSA AG.:
Berlin—London: Machines 13, passengers 56.

COMPAGNIE AERIENNE FRANCAISE:
Machines 2, passengers 3.

PRIVATE:
Machines 3, passengers 3.

Total number of trips by British Machines 61, carrying 417 passengers. Foreign Machines, 100, carrying 498 passengers.

COMPARATIVE FIGURES.

Week ending Oct. 2:
Machines, 161; Passengers, 915; Crews, 314; Total personnel, 1,229.
Corresponding week, 1926:
Machines, 95; Passengers 536; Crews, 125; Total personnel, 661.
Corresponding week, 1925:
Machines, 94; Passengers, 381; Crews, 122; Total personnel, 503.
Corresponding week, 1924:
Machines, 113; Passengers, 484; Crews, 142; Total personnel, 626.
Corresponding week, 1923:
Machines, 79; Passengers, 238; Crews, 108; Total personnel, 346.
Corresponding week, 1922:
Machines, 98; Passengers, 330; Crews, 159; Total personnel, 489.
Corresponding week, 1921:
Machines, 75; Passengers, 227; Crews, 98; Total personnel, 325.
Corresponding week, 1920:
Machines, 131; Passengers, 222; Crews, 152; Total personnel, 374.

Croydon Notes.

Now that Summer is over, and the Winter time-table for the Air Lines are coming into force, it may be well to consider how air traffic has fared during the last six months.

In many ways the results of this Summer's working have been very satisfactory. Despite the horrible weather all the lines working to and from Croydon have maintained all excellent degree of regularity, and safety, in the running.

Traffic on the whole has increased. Even the passenger traffic which weather might quite reasonably have scared off the airlines, has quite definitely gone up. And, although a complete analysis of the distribution of this traffic is not yet available, there is good reason to believe that the proportion of the total carried by Imperial Airways has increased.

Goods traffic has increased probably more than has the passenger traffic. At the same time Imperial Airways at least have succeeded in reducing their operating costs.

Therefore it can fairly safely be said that during the Summer of 1927 progress has been made towards making Imperial Airways a self-supporting concern.

At the same time it is idle to pretend that the position is altogether as satisfactory as might be wished. It is a little difficult to give any authoritative statements as to why the progress of our one and only organised Air Line has been so much slower than some of those concerned in its formation hoped that it would be.

Very generally there are two reasons. One is that operating costs and very particularly overhead charges have not fallen as rapidly as had been hoped. The other is that the rate of traffic increase has not been as rapid as was expected.

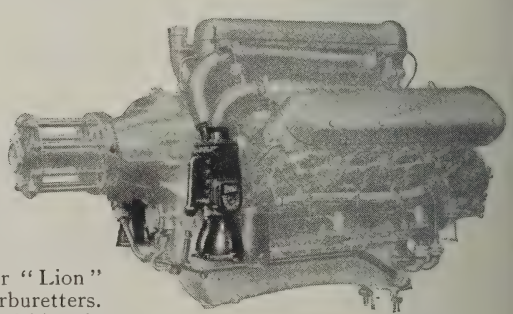
Purely and entirely as the opinion of a looker-on one may hazard the opinion that the real trouble is failure to secure enough traffic to justify the scale of organisation of this particular Air Line. From what can be seen and heard there is no fault to find with the purely operating side of Imperial Airways. But one does feel that there is a good deal of room for improvement in their selling organisation.

Imperial Airways ought to know by this time that in the country generally there is a vast public interest in the possibility of air transport. [One may suggest that the Management of Imperial Airways does know it, and has done a vast amount to create that "vast public interest" by sending its air-line machines to meetings all over the country and taking up passengers by the thousand.—C. G. G.] And one can personally vouch for the fact that a very small proportion of the interested public knows what services Imperials actually operate. A goodly number know vaguely that they fly to Paris from Croydon—and very few know any more.

Frankly one believes that what Imperials need now is firstly to double or probably to quadruple their expenditure on advertising, and secondly to give up regarding Croydon as the Hub of the Universe.

Decent publicity, particularly at Liverpool and Southampton, plus services connecting incoming liners at these two points with Croydon, would probably make even the Paris service pay.—W. H. S.

The choice of SCHNEIDER CUP challengers.



NAPIER "LION" AERO ENGINE.

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THE WEATHER.

THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Grey

Vol. XXXIII. No. 15 SIXPENCE WEEKLY. Registered at the G.P.O. as a Newspaper.

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"BEYOND THE NAMELESS TIMBER SAW THE ILLIMITABLE PLAIN."
(Kipling.)



TIMBER AND TRANSPORT:—A Fokker Universal (Wright Whirlwind engine) belonging to Western Canada Airways, at one of its ports of call in the Red Lake district. The bathing tent in the background is the office of the Airways' local agent. The dog teams—one of them loading goods from the aeroplane—are the only alternative form of transport available in this region in Winter. In Summer canoes take their place.

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Flying her Avro "Avian" Mrs. Eliott-Lynn, on July 19th, covered 1,300 miles with 79 landings in one day between dawn and dark. Nothing to equal this has ever been done before. The "Avian" landed at every usable aerodrome in England, as well as on 20 fields.

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Mr. Bert Hinkler, flying his "Cirrus Avian" on August 27th, accomplished a non-stop flight of 1,200 miles from Croydon to Riga, Latvia, in 10¾ hours. His average speed was over 100 miles per hour and petrol consumption was 30 miles per gallon.

The accumulated experience resulting from the design of aeroplanes with engines of from 3½ to 1,000 horse-power in a single unit, has provided the ability to produce the best light aeroplane in the world.
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OCT. 12, 1927.

THE AEROPLANE

Incorporating
Aeronautical Engineering

VOL. XXXIII. No. 15.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months, 32s.
Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8s.
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ON THE WEATHER.

After last week's issue of THE AEROPLANE one may fairly assume that all readers of this paper are aware of the fact that Great Britain won the Schneider Trophy. Lest one should be accused of rubbing in the fact unduly, one does not propose to refer to the matter again at any considerable length until the time appears to be ripe to stir the British aeronautical community into activity with a view to preparing to defend the Trophy next year. (Which will probably be about the week after next, if we are to make any attempt to win again next year,—seeing that we have taken three years to organise this victory.)

Probably by the time this week's issue of THE AEROPLANE is going to Press this office will have been inundated with abusive or reproachful letters from each class of the community which had anything to do with winning the Schneider Trophy. But as one is now taking one's annual Summer holiday for a week, the Staff can stand the racket.

One has noticed that whenever the Staff of THE AEROPLANE, collectively or individually, endeavours to be complimentary or flattering to people or firms concerned with aviation, the persons concerned somehow manage to be offended. We always seem to praise somebody who should not have been praised, or to omit giving credit to somebody to whom it is due.

That is one reason why adverse criticism is always so much safer. It does at any rate only offend the person or institution whom it is intended to offend. It is always sure to please everybody else.—Such, alas, is human nature.

WHAT THE WEATHER HAS BEEN.

Therefore, as a fairly safe subject for discourse this week, one proposes to abuse the weather as it cannot kick back. The weather at any rate cannot write abusive letters, nor can it cancel its advertisements. And if one does happen to divert the trend of the discussion towards the Meteorological Department, that Department is so used to abuse that it is not at all likely to feel hurt.

It has been a beastly year, has it not? We have not had a spell of decent weather since Easter. And that was too early in the year for anyone to feel warm and summery. Then we had an abnormally dry but almost completely sunless May. And since then we have had rain, varied only by rain in larger quantities.

Since Easter to the time of writing there has not been one complete sunny Summer week-end. And there has not been one full moon on a clear night. There have been one or two fairly clear nights near full moon, when night flying has been pleasant, but nothing to make it tempting.

From the day of the R.A.F. Pageant, downwards through all the Royal Aero Club's official meetings and all the Pageants of the Flying Clubs, right away to the flying garden-parties in private parks practically every demonstration of flying throughout what the Calendar called the Summer has struck bad weather. Everything that the weather could do in the way of rain, wind, low cloud, fog, and in general what the Mediterranean languages call atmospheric torments, has been done to spoil flying in the British Isles this year. And yet this strange country of ours has made more progress in flying this year than it has done hitherto in any three consecutive years.

Which, after all, is exactly what one ought to expect. The only way to make an Englishman do a thing is either to tell him that he can't do it or to try to prevent him from doing it. As soon as that happens the Englishman gets his back up, puts all his energy into the job, and proceeds to do the impossible.

A PROPHET OF THE PAST.

Years and years ago, somewhere about 1911, Brigadier General David Henderson, then Director of Military Training at the War Office,—that far-sighted and able soldier who was the real founder of the Royal Flying Corps in 1912, and our first Director of Military Aviation in 1913,—said, at a time when British Aviation was in a very poor way compared with aviation in France and Germany and Italy, that our disastrous weather would ultimately force us to produce the best pilots and the best aeroplanes in the World.

He said that just as our dangerous coasts and our treacherous seas had forced us to become the best seamen in the World and had forced us to build the most seaworthy ships, so our gales and clouds and rain, compared with the steady reliable weather on the Continent, and our small fields and broken country, compared with the great open plains of the Continent, would force our pilots to learn to fly in every kind of weather and would force our aircraft constructors to produce aeroplanes which could be flown in gales and could be landed anywhere.

That is exactly what has happened. And the truth of his prophecy has never been so well demonstrated as in this year 1927.

R.A.F. PROGRESS IN 1927.

There is good reason to believe that the Air Force in the



TAKING IT GREEN.—A Handley Page W.10 belonging to Imperial Airways about to take off at Hooton Park, during the Liverpool Civic Week Meeting. The bow wave is distinctly noticeable.

British Isles has spent more hours in the air than in any previous year since the War 1914-18, and in spite of the weather, which must have caused more forced landings than would have been necessary in good weather, and in spite of those forced landings being made more difficult by wind and bad visibility, there have been far fewer fatal accodents in proportion to the mileage flown than in previous years.

The weather during the Air Exercises was abominable, yet London was bombed by night and day, and our defensive aircraft flew above and below and through clouds and rain-storms, without accident and without anxiety.

During this year the machines of the Coastal area have done far more oversea flying in far worse weather than in any previous year, and have had fewer accidents of any kind. Thanks to more reliable engines, or at any rate to knowing how to keep engines in flying order, there have been fewer forced alightings at sea, and thanks to the improved air-worthiness of our seaplanes, and especially of our big flying-boats, less damage has been done in those forced alightings than in previous years.

Our Civil Aviators.

Those who have taken the trouble to follow the figures for Civil Air Transport at Croydon will have seen that week by week the number of passengers carried across the Channel by British aircraft has been bigger than in previous years. And undoubtedly when the full report of the Department of Civil Aviation comes to be published it will be found that British commercial aircraft have covered a greater number of passenger miles with fewer forced landings and a higher percentage of regularity than in any previous year.

So far as commercial flying is concerned we have now reached the stage when in really bad weather aeroplanes are actually more regular than steamships. It is true that the cross-Channel steamers manage to get across in almost any weather. But Mr. Neville Stack has said that, during that appalling month in the holiday period in which he ran a news-paper service to Ostende from Lympne with 100 per cent. regularity with an old D.H.9, one of the things that struck him most was that on the only two or three fine mornings when he crossed the Channel the sea was full of shipping, whereas when there was a full gale blowing there was never a ship to be seen. Barring the mail-boats and the great ocean liners, ships are weather-bound by a wind which an aeroplane pilot would merely regard as a great help or something of a hindrance according to the direction in which he was going.

The Club Folk.

Next on the scale come the Flying Clubs. All the officially subsidised Clubs have done more flying than they did in the previous year, when the weather was on the whole quite favourable. At least once, and in some instances several times during the year, each Club has beaten all previous records for the hours flown in a week.

New Clubs have been formed in various parts of the country and have managed to acquire Club machines without Government subsidies. The subsidised Clubs have acquired additional machines and hundreds of new members. The number of Club members who have qualified for their Class A, and in some cases Class B, Certificates, has increased enormously. And every Club has a list of people who are awaiting their turn to be taught to fly.

The Club instructors have been working from dawn till dark in all sorts of weather. And if only the Clubs could afford more machines and more instructors they would still be full up with people wanting to fly.

The Private Owners.

As a result of all this Club activity there has been an equally remarkable increase in the number of private owners. In spite of the high price which light aeroplanes are bound to cost at present, quite a number of sportsmen, ranging in age between about twenty and fifty, have bought aeroplanes, both low-powered and high-powered, and are their own pilots.

One hears little about the activities of these sportsmen, because none of them is out to advertise himself, and the majority of them do not even fly in Club competitions. But they tour quietly about England and sometimes on the Continent and use their machines just as most of us use our cars. They are in fact a class which hardly exists in any other country, even in America, and our weather has apparently rather encouraged them than impeded them.

The Great British Public.

Most striking of all perhaps has been the increase in what Sir Samuel Hoare has called "airmindedness" among the general public. We have been accustomed to seeing tens of thousands of people roll up to the R.A.F. Pageant at Hendon year after year, but there are special reasons why they should do so. It is one of the spectacles of the year, it is the one opportunity in the year for the old hands in the Flying Services to go and see what the youngsters are doing, and in every way it is very much "as done" in Town. And the London crowd know by this time that whatever the weather may be the R.A.F. will put up a good show at Hendon.

But the Provinces are another matter. The ordinary provincial has known so little about flying hitherto that he is not in a position to judge whether the weather on a certain day will stop flying or not. But judging by all the various provincial air-race meetings and pageants of the year, he seems to have assumed that the flying will be done whatever the weather. And he has never been disappointed.

Nothing can prove better the airmindedness of the people than the fact that on such days as those which afflicted the meetings at Hooton near Liverpool, and the Yorkshire Club's meeting at Sherburn, several thousands of people should have taken the trouble to go to the aerodromes and stand in the wet and watch aeroplanes behaving like submarines.

Practically any other form of open air public entertainment would have been washed out, in the full sense of the phrase, on either of those days. Yet the events were flown almost according to the full programme, and people went to watch them.

Even the fact that a couple of thousand people went to Croydon in a downpour and a gale to see the unhappy Schneider Trophy Team arrive is proof of the airmindedness of the people. Perhaps if it had been a really fine day there might have been 150,000 people ready to sacrifice their usual Saturday afternoon's amusement merely for the sake of seeing an aeroplane arrive, accepting the word of the Press the fact that it contained the Schneider Team, whom they were never in the least likely to see in the flesh.

Nobody except those in the front row behind the palings could have seen the heroes of the day as they were paraded past the barriers. And as they were merely passengers behind one of the regular drivers of the Imperial Airways' 'buses there was not even the satisfaction of seeing a machine handled by a history-making pilot,—which was at any rate a satisfaction to those who saw the arrival of Charles Lindbergh, even if they did not catch a glimpse of the man himself.

Therefore there is no doubt that the ordinary sight-seeing members of the Public are now truly interested in flying. And their interest has certainly been increased because the weather has done its best to stop them from seeing flying, and because, having seen flying in such weather, they have admired the hardihood of the pilots and have understood better the difficulties of the game.

The Joy-riders.

Lastly we have the joy-riders,—the people who are not pilots themselves and of whom the majority have no hope of ever becoming pilots, but yet want to know what flying feels like, either with the idea of some day travelling by



FOR GENERAL PURPOSES.—The Bristol Beaver (450 h.p. Bristol Jupiter VI engine), a two-seat general purposes biplane of all-metal construction.

Napier Leads!

Writing on the result of the Schneider Cup race, when Great Britain achieved such a notable triumph, the "Westminster Gazette" of Sept. 27, 1927, said:

"THE Napier engines, with which all British machines were equipped, demonstrated that Britain leads the way at least on this side of aeronautical development."

Whether for Naval, Military, Commercial or Racing purposes, to obtain the best performance and greatest reliability from your aircraft, install the—

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All the successful long-distance flights by the Royal Air Force have been carried out with Napier engines.

In the Schneider Cup race, the winner, Flight-Lieut. Webster, covered 217 miles on a Supermarine Napier S.5 at an average speed of 281·669 m.p.h.

air or merely for the sake of saying that they have been in the air, so as not to be thought out of date by their friends.

The regular joy-ride concerns all over the country seem to be doing better than ever. We hear little about their activities, for various reasons. First of all they are frightfully busy, and all the energy which they can spare for advertising themselves is devoted to advertising their forthcoming and current activities at the various places where they are going to fly or are actually flying. And secondly some of them do not want their activities made too well-known, for they are rather afraid that if everybody knew how well they were doing financially other people might be tempted to jump in on the game and overcrowd the market.

One can at any rate say that the existing joy-ride concerns have been doing better than ever this year, again in spite of the weather. One peculiarity about the most successful joy-ride firms is that although they bear localised names they hardly ever seem to operate in their own localities. For example, the last one heard of the Cornwall Aviation Company it was giving quite a successful display over Morecambe Bay, and the last one heard of Mr. Fred Holmes of the Berkshire Aviation Tours Ltd. was from Aberdeen, where he had managed to persuade, in the course of a short visit, 2,000 hard-headed Aberdonians to part with their hard-earned bawbees for a trip off the earth.

An Asset to Aviation.

One has long regarded Mr. Holmes as one of the Nation's greatest assets in making the people of the British Isles airminded. Doubtless he could say exactly how many passengers have been carried in his machines since he began operations somewhere about 1920. But by this time the number cannot be very far short of a million.

His activities have extended to such an extent that the old aerodrome buildings at Witney, near Oxford, have become too small, and he has now located his workshops at Monkmoor Aerodrome, Shrewsbury, which is a goodish way from Berkshire, where his activities originated in the little town of Wantage.

Some of the difficulties which beset a joy-ride outfit even in these civilised days may be gathered from the following amusing paragraphs extracted from his letter :—

With such a terrible wet season we have spent every minute, one might say, in pushing the business. Incidentally trying to find a dry spot of country.

Until late August I was over in Ireland, and did quite a fair trade. We visited Lurgan, Lisburn, Banbridge, Omagh, Strabane, Derry, Bangor, Portstewart, Portrush and Donaghadee. The country as a whole is unsuited for flying. Owing to the "small holding" business, fields are very small. What large fields they had in years gone by have been cut up into three or four, and in most cases are owned by three or four different people.

I struck a fine site at Newry, and found it belonged to no less than eighteen people. Each had about an acre, and each acre was marked off by little heaps of stones. I did not try to get this site. Part of the owners were Roman Catholics, part Church of Ireland, part some other "Class," so I gave it the go-bye.

We found a certain amount of difficulty regarding Sunday flying, and we have had paid spouters imported from Belfast, complete with harmonium, to stop the Sunday work. These people took up a position outside our gate, and carried on to such an extent that really it was difficult to know whether one's engines were operating properly.

From Ireland we visited Glasgow. (Take warning all others who wish to visit the said city.) I got my licence from the Air Ministry and started off on the good work. After a day's flying we had a visit from a burly Inspector of Police (an Irishman,—strange how these fellows follow one about!) who wished to see our licence. We showed it to him.

"Oh, that's not the thing. Where is your licence for holding an entertainment in the City of Glasgow?"—Well, we hadn't got one, so we were forced to apply to the magistrates for the said licence. We did so. We got it. No Sunday flying to be held on the said field, in the City, and please remit the fee of 2s. 6d. for this licence which has been granted to the B.A.T. Ltd.

The funny part was that on the Sunday, had flying been allowed, there was no wind, and we could have taken off away from the City, and landed towards it,—and my site was the first field in the City boundary. (A very fine point in a law case, for should we have been *flying* within the City boundary?) As it was I had another two machines at Stirling, so we joined forces and took up about 400 passengers each Sabbath Day.

The success of the firm is the best proof of the way in which the essential Englishman does all the better because of difficulties.

Imperial Airmindedness.

Another form of joy-riding which has done an immense amount of good, though it has brought down upon its operators the abuse of the permanently disgruntled, on the grounds that it is taking bread out of poor men's mouths, has been that provided by Imperial Airways Ltd. whenever they have sent one or other of their "giant air-liners," as the newspapers call them, to various meetings to take up passengers in batches of a dozen or more.

In this way they have given thousands of people a taste of real air transport in more or less comfortable closed cabins, whereas the Avros of the ordinary joy-ride firms have rather given people a taste of sporting flying as practised by the owner-pilot. Both provide an excellent form of education, one in the direction of air travel, the other in the direction of air sport. And both have made during this year thousands of converts to aviation.

The "Meteor" Folk.

Lastly there is the matter of the Meteorological Department of the Air Ministry in its relation to the weather. Everybody pulls the leg of the Meteorological Department, except when they merely abuse it. And the Department does not mind in the least. It can very well afford to laugh at criticism, because it has undoubtedly been during this past year one of the most efficient of Government Departments.

Of course anybody can work off on it the cheap jest that the meteorologists could be sure of being at least 95 per cent. right throughout the year merely by prophesying rain and wind every day. But those who have been interested enough to follow the weather maps issued by the Department from the Air Ministry, and to watch the way in which the series of cyclones and anti-cyclones have swept across the Atlantic and dispersed over Europe, must have realised how thoroughly well organised are the Department's sources of information, and how accurate have been its prophecies about the weather.

Flying has done at least as much for meteorology as meteorology has done for science. In the very early days of flying, when one first came in contact with the Meteorological Department as it then was, one found it made up of a lot of bone-headed old officials rather of the type of the more stupid sort of university professor. They knew nothing at all about wind currents or air speeds or what happened in the upper strata of the air. But they were full of pseudo-Mediterranean words with which they plastered their lectures and other documents in the way which is commonly adopted by scientists as a means of hiding their own ignorance from, and pretending their own wisdom to, the great British Public.

In these days—although these quite unnecessary mongrel-classic words are still retained because pseudo-scientists must always use ju-ju words to persuade people that their stuff is really big medicine—the people who use them officially do at any rate know something about the weather. This year has given them magnificent opportunities, because there has probably never been a year in which there have been so many and such rapid changes in weather conditions.

Whatever charts and graphs the Department may use for its own purposes, they must look something like a cross between a fever-chart in a hospital and a futurist picture of Regent Street in process of reconstruction. And so besides having been very useful to aviators and agriculturists alike, the Meteorological Department must have learned a great deal from the weather of the past year.

On the whole, therefore, accepting to the Buddhist doctrine that "all things work together for good," we may regard this year of the World's worst weather not merely as a blessing in disguise but as a special dispensation of Providence for the benefit of British Aviation.

And probably by the time these notes appear in print we shall be wallowing in the first heat-wave of the year.—C. G. G.

THE ROYAL AERONAUTICAL SOCIETY.

The second meeting of the current session of the Royal Aeronautical Society—in which the Institution of Aeronautical Engineers is now incorporated—will be held on Thursday, Oct. 18, at the rooms of the Royal Society of Arts, John Street, Adelphi, at 6.30 p.m.

Sq. Ldr. T. H. England will then read a paper on the "Practical Side of Performance Testing." In view of the author's long experience as a flying officer at the Aeroplane and Armament Experimental Establishment at Martlesham Heath, this paper is likely to be of very great interest.

A JAPANESE FIGHTER COMPETITION.

The Japanese Navy is holding a single-seat shipboard fighter competition, the tests of which are due for completion this month.

Three firms have submitted designs, these being the Nakashima Aircraft Works, the Mitsubishi Company and the Aichi Tokei Denki Company.

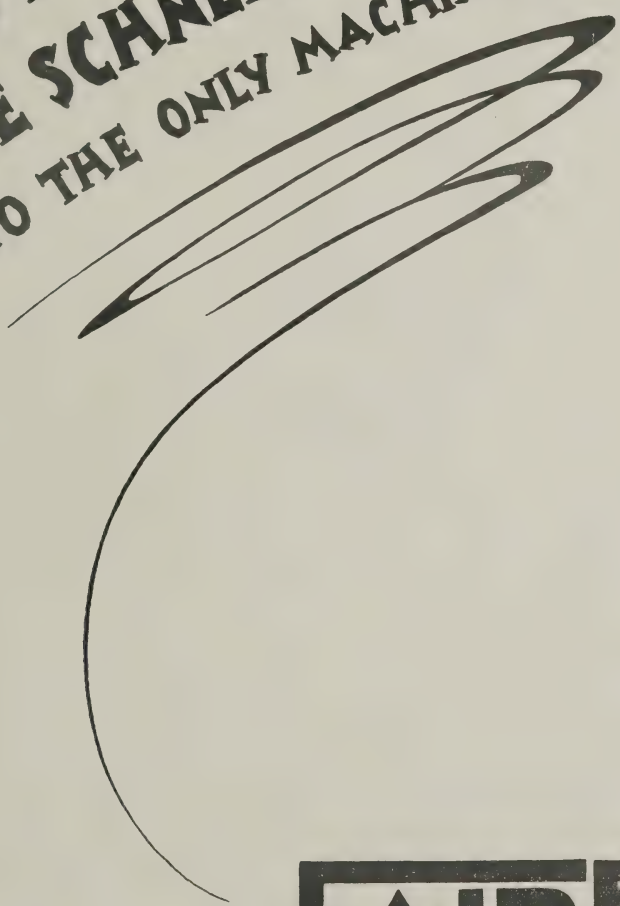
The Nakashima entry is a copy of a modified Gloster Gamecock, known as the Gambet, which this company purchased last year. The actual entry has been built in Japan but the Bristol Jupiter engine fitted is British-built. The Gloster Gambet was illustrated and described in The Aeroplane on June 1, 1927.

The other two entries are larger machines and are both fitted with the 500 h.p. Hispano-Suiza engine.

It has been unofficially reported that the Nakashima entry is the favourite, but once the machines have been handed over to the Navy all tests are carried out by naval personnel so that nothing is likely to be known as to the results until production orders are placed with the successful firm.

FIRST AND SECOND IN THE SCHNEIDER TROPHY RACE

FITTED TO THE ONLY MACHINES TO FINISH



FAIREY

LICENSE REED

METAL AIRSCREW

AND SPINNER

THE KHARTUM—KISUMU SERVICE.

Early in October the Khartum—Kisumu air service operated by the North Sea Aerial and General Transport Ltd. resumed operations. The D.H.50 seaplane "Pelican" (450 h.p. Bristol Jupiter engine), which was damaged on Jan. 2 while being tested on the Nile, has been repaired at the Greek factory operated by the Blackburn Aeroplane and Motor Co. Ltd. at Phaleron, near Athens, and is now in use on the route.

On its first journey from Khartum it carried Viscount Gage, Parliamentary Secretary to the Secretary of State for India, and M. Allard, professor of the University of Brussels, Director of the Laboratoire Aerodynamique de Belgique and Technical Director of Civil Aviation to the Belgian Government.

M. Allard is making a 25,000 km. aerial tour of Egypt and Central Africa in the interests of Civil Aviation.

During the course of his tour he has flown from Cairo to Baghdad and back as the guest of Imperial Airways and from Cairo to Khartum in an R.A.F. machine. From Khartum he is flying to Kisumu and will then proceed to the Belgian Congo, where he will examine the possibilities of an extension of the Kinshasa—Elizabethville service, operated by the Sabena Company, to Rejaf, Sudan, to connect with the Khartum route.

THE DANIEL GUGGENHEIM SAFE AIRCRAFT COMPETITION.

It is announced by Major R. H. Mayo, the representative in Britain of the committee which is responsible for the organisation of the Competition for Safe Aircraft for the Daniel Guggenheim Fund's prize of $100,000, that seven formal applications for entry have already been received. These seven applications are from The Cierva Auto-Giro Company Ltd., The De Havilland Aircraft Company Ltd., The Gloster Aircraft Co. Ltd., Handley Page Ltd., Vickers Ltd.—all of England; The Schroeder-Wentworth Company of Chicago and The Hall Aluminium Aircraft Corporation of Buffalo, New York.

Mr. Fokker has definitely stated that he intends to apply for entry at a later date, and there is every reason to believe that many other prominent aircraft constructors from all over the World will eventually apply for entry.

In the meantime the fact that five out of the seven formal applications already received come from British firms fairly accurately reflects the fact that this country takes a greater practical interest in safe aeroplanes, and has advanced further in their development than has any other.

It is further announced that the actual flying tests will take place at Mitchel Field, Long Island, N.Y., as and when accepted machines are presented for trial, and that Major Davidson, recently the United States Military Air Attaché in London, will be the aerodrome manager during the tests.

The many members of the British Aircraft Industry who made Major Davidson's acquaintance while he was in this country will regard this as a guarantee that the arrangements at Mitchel Field shall be in competent hands.

Actual flying tests in this competition, as already mentioned, will occur when aircraft are ready to undertake them. In view of the very onerous conditions which have to be satisfied in the qualifying tests for the competition, it is unlikely that any of the machines entered can be ready for trial before the end of next Summer, and it is unlikely that any large proportion of the trial can be completed before the middle of 1929.

MR. HANDLEY PAGE AS AN OPTIMIST.

At the inaugural meeting of the now amalgamated Royal Aeronautical Society and Institution of Aeronautical Engineers, Mr. F. Handley Page gave a lecture under the comprehensive title "Aviation."

In this paper Mr. Page briefly reviewed the past achievements of the aeroplane designer and constructor and ventured to predict what he would be able to achieve in the future, working along lines which are obvious even to-day.

The aeroplane would improve firstly by a process of cleaning up. The various holes cut in its body would be covered up, the odd projecting items of equipment would be stowed out of sight, and undercarriages would be tucked away in flight.

The weight of the structure would be reduced, partly through development of metal construction, partly by providing equipment that did not call for so much supporting structure in the machine.

A very big improvement in airscrew efficiency would be attained by using reduction gears, and engine weights would come down still further.

Finally fuel consumption per h.p. hour would be reduced, either by the use of Diesel engines or by raising the compression of the petrol engine and using an anti-detonating fuel.

Safety would be secured by the improvement of control systems which would get away from the danger of the stall.

He did not pretend that all or any of the results he foresaw could be embodied at once in an aeroplane, but in time—say 20 years—we might expect to find an aeroplane with two 500 h.p. engines which would weigh 25,000 lbs. all up and with fuel for 3 hours' flight at 100 m.p.h. would carry 70 passengers instead of the 14 passengers carried by the present-day machine of the same power.

Alternatively this machine might carry the same number of passengers as to-day, but enough fuel for a non-stop flight to Cairo.

At the end of the paper the author delivered an attack on the present forms of subsidy for the British Air Lines. Based on the h.p.-miles flown the subsidy encouraged flying, but did not encourage traffic getting. Any subsidy to be of use should take the form of payment for useful service rendered, that is to say traffic carried. Under present conditions the airways were encouraged to go on flying machines which could never pay their way instead of agitating for more and more economical types.

A GERMAN ATLANTIC ATTEMPT.

On Oct. 4 a Junkers G-24 seaplane left Norderney in an attempt to fly to America by way of Lisbon, the Azores, and then either by way of Bermuda or Newfoundland to New York.

The machine carried three pilots, Herren Loose, Starke and Loewe, one mechanic, Herr Fritzler, and a woman passenger. The same day it alighted at Amsterdam.

On Oct. 5 it left Amsterdam but was forced to alight near Cape Rocca. In answer to wireless calls a Portuguese tug went to its assistance, picked it up at 10.00 hours on Oct. 6, and towed it into Lisbon, where it arrived at 16.00 hours.

This machine has been entered for the 100,000 mark prize offered for the first German flight across the Atlantic.

It is being financed partly by the Junkers Flugzeugwerke, partly by the "Severa" A.G. (Seeflug-Versuchs A.G.), and partly by one of the big steamship companies. As the object of the prize is to demonstrate the possibilities of a Transatlantic passenger service, the participation of one of the steamship companies is significant. The "Severa" company, which is an experimental institution, is interested in the technical side of the flight and has provided most of the scientific equipment.

A HOLLAND—EAST INDIES MAIL SERVICE.

On Oct. 1 Lieut. Koppen left Amsterdam on a Fokker F.VII-3m. (three 180 h.p. Armstrong-Siddeley Lynx engines) on an experimental flight to Batavia, Dutch East Indies, carrying a load of mail.

He carried as passenger Mr. Plesman, the general manager of the K.L.M., who is to study the possibilities of opening up this route as a regular service.

The machine arrived at Batavia on Oct. 10, so that it would appear that the object of the flight—to test the practicability of an air mail service to and from the Dutch East Indies within a month—has been attained insofar as the outward journey is concerned.

FRANCE—BRAZIL.

On Oct. 10 M. Costes and Lieut. de Vaisseau le Brix left Le Bourget at 09.40 hours in an attempt to fly to Buenos Aires in three stages. Their machine is a Breguet XIX (500 h.p. Hispano-Suiza engine), with which they originally intended to fly from Paris to New York.

Their three stages will be Paris—St. Louis, Senegal; St. Louis—Natal, Brazil, and Natal—Buenos Aires.

The machine carries 620 gallons of petrol, about 10 cwt. of baggage, and it is fitted with wireless sending and receiving apparatus.

A FATAL ACCIDENT AT BREMEN.

Herr Wulf, the pilot and constructor of the Focke-Wulf F.19 monoplane known as the "Ente," was killed on the Neuenlander Feld at Bremen on Sept. 29 when the Ente crashed during a demonstration flight.

The cause of the accident is not yet known, but the aerodynamic eccentricity of the machine is enough to account for it.

FORESTRY IN SELANGOR.

The 1926 Administration Report says that in the State of Selangor, Federated Malay States, the total output of timber rose from 20,135 tons in 1925 to 26,719 tons, and firewood and charcoal from 152,516 tons to 179,333 tons. About 71 per cent. of the output came from reserved forests. The output of gutta-percha rose from 1,242 lbs. to 1,380 lbs.

At the end of August the Air Survey Company started work on the Klang Mangrove and Bungar Reserves. Unfortunately, however, the weather was not suitable for photography, and after carrying out only a portion of the work the airmen left for Matang.

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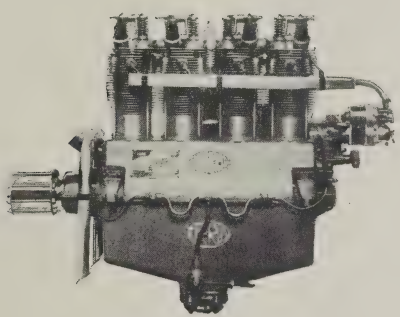
A FURTHER BRITISH SUCCESS

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8,000 MILES.

CIRRUS



CIRRUS

On 1st September Lieut. R. R. Bentley left LONDON in a "CIRRUS-MOTH" machine (standard in every respect except for increased fuel tankage), and on 28th September he landed in CAPETOWN.

Lieut. Bentley completed this record solo flight in 100 hours actual flying time.

The route lay over sea, desert, swamp and jungle; and was mostly under tropical conditions.

This noteworthy flight proves conclusively the reliability of the "CIRRUS" engine, and we offer our congratulations to Lieut. R. R. Bentley on his outstanding achievement.

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THE ROYAL AIR FORCE.

The London Gazette.

Oct. 7.

General Duties Branch.—The following Plt. Offs. are promoted to the rank of Flg. Off. :—C. E. Eckersley-Maslin (July 6); E. G. Olson (July 12); W. L. Bateman (July 16), J. McGuinness (Sept. 1); J. W. Duggan (Sept. 13). Flg. Off. (Hon. Flt. Lt.) C. W. Croxford, D.S.C., takes rank and precedence as if his appointment as Flg. Off. (Hon. Flt. Lt.) bore date July 14, 1925, immediately following Flg. Off. C. F. Steventon on the gradation list. Reduction takes effect from Sept. 6; Flt. Lt. R. W. F. Dunning is transferred to the Reserve, Class A (Oct. 6).

Medical Branch.—Flg. Off. R. J. K. Chattey is promoted to the rank of Flt. Lt. (Sept. 28); Flt. Lt. F. W. G. Smith, M.B., B.A., is transferred to the Reserve, Class D.II (Oct. 8).

Reserve of Air Force Officers.—General Duties Branch.—Plt. Off. A. W. Lindsay is promoted to the rank of Flg. Off. (Sept. 30). The following Flg. Offs. are transferred from Class A to Class C :—S. S. Kirsten (July 27); K. H. Holley (Sept. 20). Flg. Off. G. G. Green relinquishes his comn. on completion of service (Oct. 1); the comn. of Plt. Off. on probation E. T. D. Offer is terminated on cessation of duty (Sept. 14).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Off. :—No. 603 City of Edinburgh (Bombing) Squadron.—S. M. Musgrave (Sept. 5).

Princess Mary's R.A.F. Nursing Service.—Sister Miss C. C. Kirkpatrick resigns her appointment (Sept. 18).

Appointments.

Week ending Oct. 10.

General Duties Branch.—Group Captain A. G. Board, C.M.G., D.S.O., to H.Q., Egypt, for duty as Chief Staff Officer, 27/9.

Wing Commander W. J. Y. Guilfoyle, O.B.E., M.C., to R.A.F. Depot, Uxbridge, whilst attending Staff Course at R.N. College, Greenwich, 4/10.

Squadron Leaders D. F. Stevenson, D.S.O., M.C., to R.A.F. Depot, Uxbridge, 4/10. F. Fernihough, M.C., to No. 22 Group H.Q., Farnborough, 1/10. A. N. Gallehawk, A.F.C., to R.A.F. Depot, Uxbridge, 12/9. P. G. Scott, to Armament and Gunnery School, Eastchurch, 6/9. F. R. Alford, M.C., to R.A.F. Depot, Uxbridge, 2/10.

Flight Lieutenants A. S. Ellerton, O.B.E., to R.A.F. Depot, Uxbridge, 2/10. F. C. B. Savile, to Wessex Bombing Area H.Q., Andover, 11/10. J. R. F. Randall, D.F.C., to No. 1 School of T.T. (Apprentices), Halton, 24/10. W. M. Yool, to R.A.F. Station, North Weald, 27/9. E. L. P. Morgan, to No. 5 F.T.S., Sealand, 9/10. A. R. M. Rickards, A.F.C., and G. H. Russell, D.F.C., to R.A.F. Depot, Uxbridge, 6/10. C. Hallawell, to R.A.F. Depot, Uxbridge, 3/10. R. S. Sugden, A.F.C., to C.F.S., Upavon, 2/10. R. S. Aitken, M.C., A.F.C., to R.A.F. Depot, Uxbridge, 5/9, and to Air Ministry (Signals Branch), 22/9. F. H. Laurence, M.C., to Aircraft Depot, India, 1/9. A. C. Stevens, to R.A.F. Base, Calshot, 30/10. A. A. C. Hyde, to No. 99 Sqdn., Bircham Newton, 2/10. B. H. C. Russell, to No. 5 Sqdn., India, 30/8. A. Rowan, to No. 208 Sqdn., Egypt, 27/9. R. B. Sutherland, D.F.C., to No. 2 Armoured Car Coy., Palestine, 27/9. R. S. Greenslade, to No. 4 F.T.S., Egypt, 27/9. A. Hesketh, D.F.C., to H.Q., Mediterranean, 27/9. A. H. H. Macdonald, to Air Ministry (Directorate of Operations and Intelligence), 14/10. T. W. S. Brown, to No. 8 Sqdn., Aden, 27/9.

Flying Officers A. H. Simmonds, to R.A.F. Depot, Egypt, 27/9. B. W. T. Hare, to No. 11 Sqdn., Netheravon, 30/9. A. E. Rogenhagen, to Experimental Section, R.A.E., Farnborough, 27/9. B. W. Duley, M.M., to No. 216 Sqdn., Egypt, 27/9. C. F. Sealy, to R.A.F. Depot, Egypt, 27/9. C. F. Caunter, to R.A.F. Base, Gosport, 3/10. R. C. Wilson, to No. 45 Sqdn., Egypt, 27/9. G. A. R. Muschamp, to R.A.F. Depot, Uxbridge, 30/8. J. W. Caddy, to Home Aircraft Depot, Henlow, 3/10. C. G. C. Woledge, to Aircraft Depot, 'Iraq, 12/9. F. M. Denny, to No. 22 Sqdn., Martlesham Heath, 2/10. G. N Hoar, to R.A.F. Depot, Uxbridge, 10/8. W. G. Cheshire, to No. 45 Sqdn., Egypt, 17/9. R. C. Edwards, to No. 216 Sqdn., Egypt, 17/9. A. A. Koch, to No. 208 Sqdn., Egypt, 27/9. A. J Brister, to H.Q., A.D.G.B., Uxbridge, 1/10. (Hon. Flt. Lt.) C. M. E. Gifford, to R.A.F. Depot, Uxbridge, 30/9. P. S. Blockey, to Night Flying Flight, Biggin Hill, 29/9. J. H. McN. Campbell, to R.A.F. M.T. Depot, Shrewsbury, 10/10. G. A. Kysh, to R.A.F. Depot, Uxbridge, 16/9. H. H. Brookes, to No. 22 Sqdn., Martlesham Heath, 26/9. S. C. Parker, to School of Army Co-operation, Old Sarum, 23/9. S. A. Thorn, to Experimental Section, R.A.E., Farnborough, 3/10. F. Woolley, D.F.C., to R.A.F. Depot, Uxbridge, 6/10. D. S. Green, to Experimental Section, R.A.E., Farnborough, 5/10.

Pilot Officer A. K. K. Calwell, to No. 16 Sqdn., Old Sarum, 19/9.

Medical Branch.—Squadron Leader H. McW. Daniel, M.D., to Station H.Q., Hinaidi, 9/9.

Flight Lieutenant A. W. Comber, to Home Aircraft Depot, Henlow, on appointment to a Temp. Comn., 20/9

Stores Branch.—Flight Lieutenants F. Anderson, to R.A.F. M.T. Depot, Shrewsbury, 5/10. T. E. Drowley, to Wessex Bombing Area, H.Q., Andover, 11/10. D. W. Wilson, to No. 3 Stores Depot, Milton, 5/10.

Flying Officer A. E. F. McCreary, to School of Store Accounting and Storekeeping, Kidbrooke, 7/10. C. W. H. Moller, to R.A.F. Station, Tangmere (Storage Unit), 3/10. C. J. Elliott, to H.Q., Cranwell, 10/10.

Accountant Branch.—Flight Lieutenant A. W. Gray, to R.A.F. Depot, Egypt, 27/9. A. C. Lobley, to School of Army Co-operation, Old Sarum, 14/10. W. E. Ennis, to H.Q., Inland Area, Stanmore, 10/10.

Pilot Officer B. Chadwell, to Record Office, Ruislip, 10/9.

Chaplains Branch.—The. Revd. J. F. Cox, M.C., B.A., to No. 4 F.T.S., Egypt, 27/9.

Group Captain Board.

Group Captain Andrew George Board, C.M.G., D.S.O., R.A.F., whose appointment as Chief Staff Officer to Headquarters, Egypt, is dated Sept. 27, 1927, was born at Sevenoaks in 1878. He was appointed to a commission in the 4th (Militia) Battn. South Wales Borderers in 1898 and to a regular commission from the Militia in 1900. He served with his Regiment in the South African War 1900-01 and was promoted to the rank of Captain in 1909.

In 1910 he learned to fly on a Bleriot Monoplane at Hendon and his Royal Aero Club Certificate No. 36 is dated Nov. 29, 1910.

In April, 1913, he was seconded to the R.F.C. with the rank of Flying Officer and promoted to Flight Commander in March, 1914. In May, 1914, he was appointed Instructor at the Central Flying School and graded as a Squadron Commander. He was promoted Squadron Commander with the temporary rank of Major in September, 1914, and Major in the South Wales Borderers in September, 1915.

He went overseas with the R.F.C. in 1915 and to Salonika in August, 1916, and from there to Egypt in September, 1916.

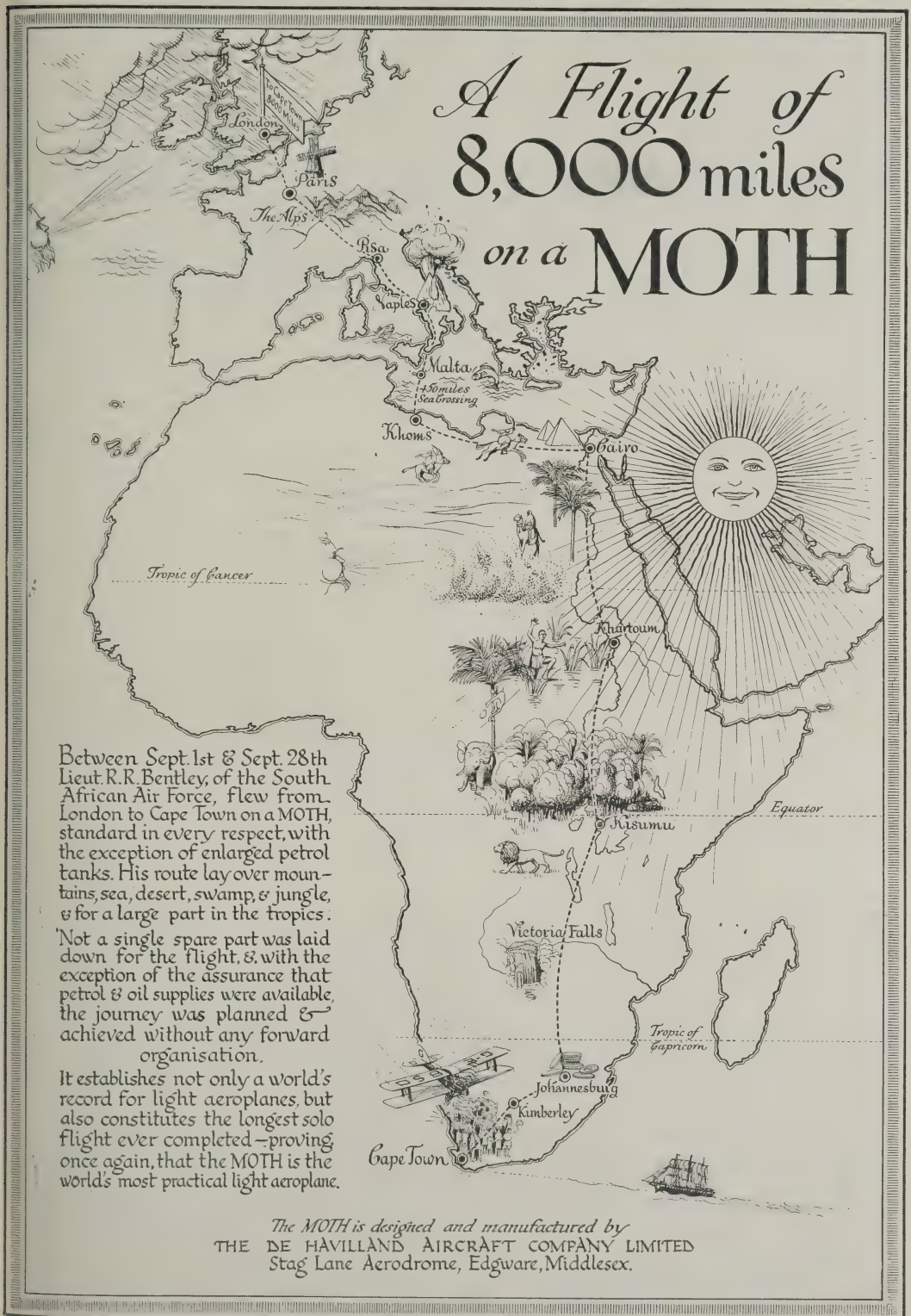
He was mentioned in dispatches (France) 1.1.16 and (Egypt) 12.1.18. He was awarded the D.S.O. 1.1.18 for distinguished service in the Field and the C.M.G. 1.1.19 in recognition of distinguished services during the War.

He resigned his commission in the Regular Army on appointment to a permanent commission in the R.A.F. on Aug. 1, 1919. He was promoted to the rank of Group Captain in January, 1921.

From 1920 to 1922 he commanded No. 1 School of T.T. (Boys) Halton, and from August, 1922, to August, 1923, he was Deputy Director of Personnel at the Air Ministry. He went to 'Iraq in September, 1923, and commanded the Station H.Q. Unit at Hinaidi until January, 1926. In August, 1926, he was appointed to command No. 21 Group, West Drayton.



THE BLACKBURN RIPON.—A side view of a new, but not the newest, two-seat torpedo bomber produced by the Blackburn Aeroplane and Motor Co. Ltd. It is fitted with a 450 h.p. Napier Lion engine.


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To Cape Town 8,000 Miles
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The Alps
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145 miles Sea Crossing
Khoms
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Tropic of Cancer
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Johannesburg
Kimberley
Cape Town
Between Sept. 1st & Sept. 28th Lieut. R. R. Bentley, of the South African Air Force, flew from London to Cape Town on a MOTH, standard in every respect, with the exception of enlarged petrol tanks. His route lay over mountains, sea, desert, swamp, & jungle, & for a large part in the tropics.
'Not a single spare part was laid down for the flight, & with the exception of the assurance that petrol & oil supplies were available, the journey was planned & achieved without any forward organisation.
It establishes not only a world's record for light aeroplanes, but also constitutes the longest solo flight ever completed—proving once again, that the MOTH is the world's most practical light aeroplane.
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Tradesmen in the R.A.F.

The following article has been received from a reader of The Aeroplane who served in the R.A.F. at home and overseas during and since the War. The writer claims that his opinions are the result of a good deal of personal observation and are supported by a great number of tradesmen in the Service :—

In some recent articles which have appeared in the daily Press dealing with the so-called numerous flying accidents which have taken place, it has been suggested that the ability of the mechanics is in some measure to blame. Whilst granting that in some instances there may have been neglect on the part of a mechanic thus causing a crash, such occurrences are very rare

In observation spread over a period of four or five years it has been noticed that on the whole the R.A.F. mechanics are of a superior intelligence to that found in either of the other two Services, this is borne out by the fact that quite 50 per cent. are men who have received Secondary School or Grammar School educations and in quite a numer of cases we find rankers who have passed through one or other of our Public Schools. Then again we have those men who have served from five to seven years as apprentices with some of our best known aviation firms, so it will be readily seen that these classes of men are quite capable of mastering the arts of aeroplane manufacture or aero-engine construction.

Unfortunately these men work under very difficult circumstances, as an instance, during the period 1924-26 it was the practice to pass boys out of the Training Schools as N.C.O.s, in quite a number of cases (a practice which is still in force) these boys (one can term them in no other manner) were posted to various flying Units to take charge of men who had had perhaps 4, or 6, or even more years of practical experience in all branches of aircraft and aero-engine construction and maintenance.

The ex-boys' practical experience of this work was a minus quantity and one can easily imagine that the practical men found it a great difficulty to work under people who had no practical idea of how the work on hand was to be done.

Credit however is due to these ex-boys for the knowledge of theory which they possessed, it showed that not all of the thousands of pounds which are spent annually on their training had been wasted; and yet, if one considers the matter in another light quite a percentage of this money was wasted because, when these boys came into men's service, a considerable number of them forgot their theory in the toil of picking up this necessary practical knowledge which enabled them to get machines in the air.

It is not to be understood from these remarks that there were no practical mechanics turned out from the Training Schools but the number has been so small that generally speaking one cannot say that the R.A.F. as a whole has benefited to any great extent. In perhaps no other branch of engineering does practice and theory disagree so much as in the aeronautical branch, and one fails to understand why more attention has not been paid to practice and a little less theory given; for, after all, practice is the thing which eventually gets the machines into the air.

In the course of these observations it was found in conversation with a dozen or so of these ex-boys that two years of actual aircraft and aero-engine experience had taught them more than four years in the Training School. One can readily realise this when one considers that as soon as they are sent to a Squadron they are entrusted with the care of an engine or a machine, which it is their duty to keep in a serviceable condition and being in such a position makes them realise that, after all, practice is the thing.

In none of the articles which have appeared upon the subject of "What is wrong with the R.A.F." has this side of things been considered. However that matter is a very real one and in some way, even if small, it will affect the efficiency of a corps which is predestined to become our future line of defence, and which will eventually be entirely composed of ex-boys.

The feature of drill has also been blamed in many instances as being detrimental to a man's skill as a mechanic, and close observation of this reveals that in a great many cases there is a lot to be said against the, one might say, almost excessive practice of trying to "level the square." It is maintained by those who have never had to do it that drill is conductive to making a man's brain act quickly and that the smartest soldiers are the best mechanics.

Here again is a case of difference of practice and theory for it is shown by the former that in eight cases out of ten, a man who is an exceptionally smart soldier invariably is a poor mechanic. It is not to be expected that a man who has devoted the whole of his career (up to the time of joining the Service) to the study of aeronautical engineering, is going to make a splendid soldier. The argument that men who are the envy of the Guards on parade are the best mechanics seems fatuous in view of the difference of the class of work. In the one we have the need for resourcefulness, intricate workmanship and a fair knowledge of the sciences whilst in the other men are merely machines who do not move as much as an eyelid unless ordered to do so.

Discipline must be maintained, both for the good of the Service and for the men themselves, but in cases where the technical work or efficiency of the men is sacrificed to the all-predominent rule of men who have never had a day's experience of technical work there is need for drastic steps to be taken in order to obviate a position which can do no definite good to the R.A.F. as a whole.

In conclusion one would like to mention that the opinions expressed in this article are not based upon fiction or hearsay but upon actual experience gained by close contact with men for whom one has the highest regard.—Nimbus.

[Although the opinions expressed in the foregoing article do not necessarily agree with those of The Aeroplane space is gladly given to ventilate what is evidently a real grievance.—Ed.]

Some Service Magazines.

The R.A.F. Cadet College Magazine for the Autumn of 1927 maintains the high standard of its previous numbers. The frontispiece is a reproduction of the *Punch* cartoon of Sir Hugh Trenchard drawn by Sir Bernard Partridge.

Wing Cdr. W. S. Douglas continues his account of his war experiences from 1914 to 1918. And there are several interesting articles on hunting and fishing in various parts of the World.

Capt. J. Morris, B.A., has contributed a description of the work of the Air Historical Branch and Major G. E. Woods Humphery has described the organisation of the Empire Airway from Cairo to Delhi.

There are about sixteen pages of Station Sports and two illustrations of the Woolwich-Sandhurst-Cranwell sports at Queen's Club.

Capt. Charles Lindbergh's own account of his trans-Atlantic flight, as given at the Royal Aero Club Banquet, is reproduced, with due acknowledgment, from The Aeroplane.

The Planesman for September contains posting lists and sports news from a number of R.A.F. Stations at home and abroad and one or two articles reprinted from other journals with acknowledgments. *The Planesman* also contains, as usual, a number of paragraphs reprinted from The Aeroplane, *without* acknowledgments.

The Daedalus, the magazine of the Old Boys' Association, R.A.F., Halton, Volume 1, No. 1, appeared early in the Summer of 1927, but owing to an oversight no review of it has appeared in The Aeroplane. Before *The Daedalus* appeared all the news of the Halton Old Boys' Association was incorporated in *The Halton Magazine*, but the ever-increasing number of ex-Apprentices in the Service has made it possible and necessary for the Association to have



A NEW TORPEDO DROPPER.—The Blackburn Ripon I (450 h.p. Napier Lion engine), a two-seat torpedo bomber, designed and built by the Blackburn Aeroplane and Motor Co. Ltd.



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"The Times" says :

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This tribute was written after twelve months' service on the London-Paris Airway.

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Maximum Weight loaded...	18,000 lbs.	Span	90 ft
Cruising Speed	95 m.p.h.	Length	64′ 6″
Top Speed near ground ...	109 m.p.h.	Height	19′ 0″
Range in still air	340 miles	Wing Area	1,890 sq. ft.
Greatest height with full load	11,000 ft.	Wing loading ...	9·5 lbs. per sq. ft.
		Power loading ...	15 lbs. per h.p.

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a magazine of its own. *The Daedalus* is very well produced on the lines of *The Halton Magazine* and will undoubtedly prove a valuable link between ex-Apprentices in various parts of the World.

The Attacks on the Air Ministry.

Moved to controversy by the leading article in The Aeroplane of Aug. 24, Mr. R. Sidney Bowen, American-born citizen, late R.F.C. and R.A.F., and now Editor of *Aviation*, New York, writes thusly :—

There are one or two things mentioned that cause me to rise in mute protest. Not so much from the standpoint of your being wrong, but rather because you take a jab at the vanity of us old R.F.C. pilots. You say that nobody in the Gosport days flew as do the people at the C.F.S. to-day. And the wildest stunts at Gosport are now part of the everyday work at the C.F.S. Ah me! Is there no justice? To think that one of your position in the aeronautical world would be so cruel as to make a comparison between the old and the new! Surely you do not believe that a present day C.F.S. pilot can crash as we used to crash at Gosport! Undoubtedly, chaps at the C.F.S. can wipe off an undercarriage or perhaps put her on her back, but it is only us of the old school who are able to wash the 'bus out to meet the Queen's taste.

Why, you remember that in the old days they used to tell us that we were not pukka pilots until we had made forceful contact with the ground three times! And not even *The Daily Mail's* investigation would find that condition still existent. It passed out of favour along with Thursday night "binges" when Wilhelm of Hohenzollern went in for Holland real estate. It just isn't any more! So you see why my pride is injured when you state that a C.F.S. pilot does all the things that we used to do in '17 and '18.

It is altogether probable that he is a better pilot. Even my colossal conceit will not prevent me from admitting that, but when it comes to crashing—Ah, thereby hangs the tail!

Indeed, he who calls himself "The Air Correspondent" and writes for *The Daily Mail* should be straight forth exposed and hanged by his heels from the roof of the Regent Palace—the well-known "Subalterns' Retreat." The blood of every old R.F.C. man must have boiled when he read that the heads of the R.A.F. do not belong! It is a certainty that "The Air Correspondent" did not see service with England's aerial arm of defence, else he would not say that the Brass Hats are useless.

Why, just suppose they had been ousted when we were at War! It would have been nothing short of complete turmoil. What would we have done if there hadn't been the ribbon- and brass-festooned Staff johnnies to drive up to our aerodromes and ask all sorts of questions about nothing at all? Where would we have been if there hadn't been some Brigadier to bleat about *Esprit de Corps* and all that sort of thing?

And imagine the uprising if there had been no staff cars for the pretty W.R.A.F. girls to run into lamp-posts and hangar doors. Why, it just wouldn't have been a war that's all.

Statistics prove that Brass Hats are absolutely essential in time of war, for it isn't good for fighting pilots to have nothing else to worry about except Enemy Aircraft.

Another point you brought out that does not read just right to me, is the matter of a pilot killing himself in an effort to save the machine. On second thought I believe that it was merely a typographical error and that you really meant to say "save the aeroplane watch."

During my years with the R.F.C. I washed out three S.E.5s, one Pup, two Camels, one Bristol Fighter, one Snipe and one Spad, but not once did the "Powers that Were" even so much as cast a fishy eye my way. However, on one occasion I neglected to bring back the aeroplane watch and I'm sure that General Trenchard himself heard about it and begged the Gods to shower their wrath upon me!

And, who is he that dares to say that the Air Ministry did not have foresight? Was it not that esteemed body that fought hard that we S.E.5 pilots might fly sitting atop a 50 gal. petrol tank? So that in the event we were shot down we would have warmth to comfort us?

And does not the accuser consider that it was foresight when the Air Ministry ordered us to fly all Camels to Lille in January, 1919, and burn them up so that the Sopwith Company might be awarded a nice new contract to build Camels for Wrangel's army in Russia?

And was it not foresight on the part of the Middle East Command to lose my papers so that I might tour Egypt incognito for three months?

But this typewriter is running away with me, and it is time to call a halt. But I had to let you know how much I appreciated your splendid article, and with the exception of the two points mentioned, I heartily agree with your views,—in fact to the extent of where I almost wish that you had added a closing paragraph advocating more Brass Hats and bigger and better crashes.

SPORTS AND PASTIMES.

The Inter-Services Swimming Championship.

The Inter-Services Swimming Championship Meeting was held at the Aldershot Command Bath on Sept. 26 and the R.A.F. was represented for the first time. The Army won the Championship for the third time in succession with 90½ points. The R. Navy and R. Marines were second with 72 points and the R.A.F. third with 44 points.

The Fighting Area Cricket Cup.

The final of the Fighting Area Cricket Cup was played at Uxbridge on Sept. 28. No. 43 (Fighter) Squadron, Tangmere, beat No. 19 (Fighter) Squadron, Duxford, by one run.

No. 19 Squadron won the toss and went in to bat, being dismissed for 75, of which Sjt. Williams made 31 and Plt. Off. Teale 19. No. 43 Squadron were hampered by Plt. Off. Yarde having damaged his shoulder in a Rugger match the previous Saturday. He batted for two hours, scoring 14 runs. Flg. Off. Hare was the outstanding feature of this innings, scoring 25. No. 43 Squadron were finally dismissed for 71 runs at 4.25 p.m., leaving 2 hours 15 minutes for the second innings. Owing to the recent heavy rains the ground was very soft and very difficult to make runs on.

Sjt. Williams and Flg. Off. Barwell opened the batting for No. 19 Squadron, the former being out to the first ball by a brilliant catch in the slips by L-AC. Wheeler. A stoppage of 20 minutes for tea left No. 43 Squadron 1 hour and a-half to get nine wickets and make the necessary runs. Flt. Lt. Smythe did great damage by getting 5 wickets for 10 runs and L-AC. Halewood 4 for 7, dismissing No. 19 Squadron for 38. No. 43 Squadron were left 21 minutes to make 43 runs, an omen. Stumps were to be drawn at 6.30 p.m. sharp and, if the second innings were not completed the match was to be decided on the first innings.

Flg. Offs. Hare and Addams opened the innings, the latter being dismissed very early. Flg. Off. Hare again stepped into the breach and with a brilliant display of batting scored 27, hitting a most masterly 6.

At this stage of the game the excitement was intense. Sir John Salmond and Sir Robert Brooke-Popham and everybody constantly looking at their watches and cheering frantically. As wickets fell, the next batsman sprinted to the wicket, arriving there before the previous batsman had time to leave the pitch, as every moment was precious. No. 43 Squadron finally scored the much desired run off the fourth ball of the last over, thus giving them the victory with less than a minute in hand.

The Cup was presented by Lady Salmond.



FLEET RECONNAISSANCE.—The Parnall Pike (450 h.p. Napier Lion engine) a three-seat reconnaissance biplane which can be equipped as either a landplane, seaplane or amphibian.

Schneider Cup

Won by

Flight-Lieut. S. N. Webster, A.F.C.,
flying a
Supermarine S. 5
with a
Napier Engine

using

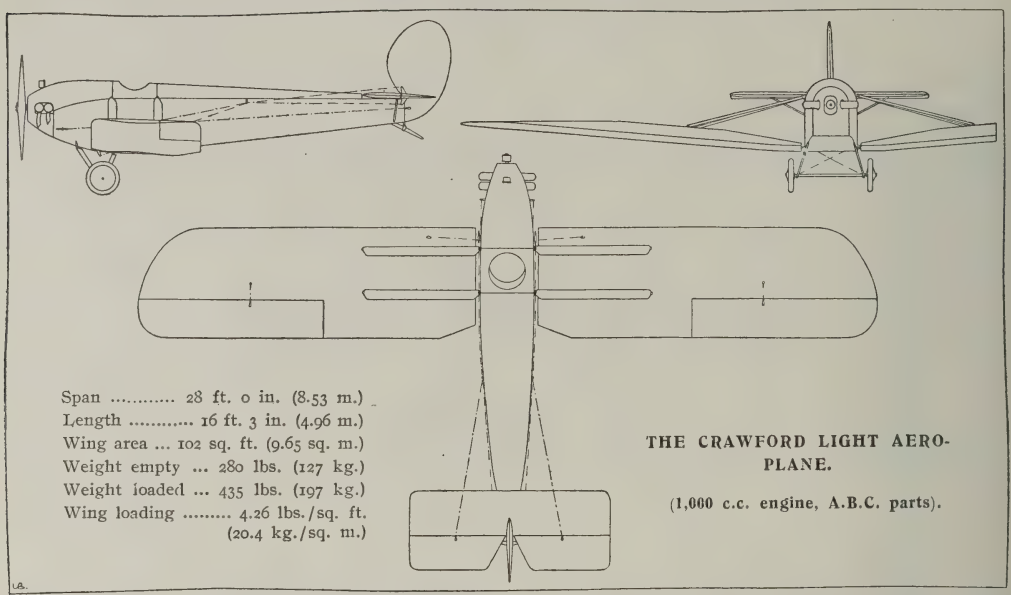
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A LIGHT AEROPLANE FROM HINAIDI.



Span ..... 28 ft. 0 in. (8.53 m.)
Length ..... 16 ft. 3 in. (4.96 m.)
Wing area ... 102 sq. ft. (9.65 sq. m.)
Weight empty ... 280 lbs. (127 kg.)
Weight loaded ... 435 lbs. (197 kg.)
Wing loading ..... 4.26 lbs./sq. ft. (20.4 kg./sq. m.)

THE CRAWFORD LIGHT AEROPLANE.

(1,000 c.c. engine, A.B.C. parts).

It is well known that a large majority of the officers of the R.A.F. like flying for its own sake and that the development of the light aeroplane has been followed with great interest by many of these officers in the hope that eventually they themselves might become owners of cheap but serviceable private aeroplanes. Some of the more enterprising of these officers have not been content to hope, but have set to work to produce their own machines of this type. Flt. Lt. Crawford, R.A.F., while stationed at the 'Iraq Aircraft Depot, Hinaidi, designed and built a small single-seat monoplane, the general appearance of which is shown in the attached photographs and drawing.

Flt. Lt. Crawford is now at Group Headquarters, Lee-on-Solent, and the machine itself is with him, but owing to the fact he has few facilities for flying, the machine is for sale at a very moderate price.

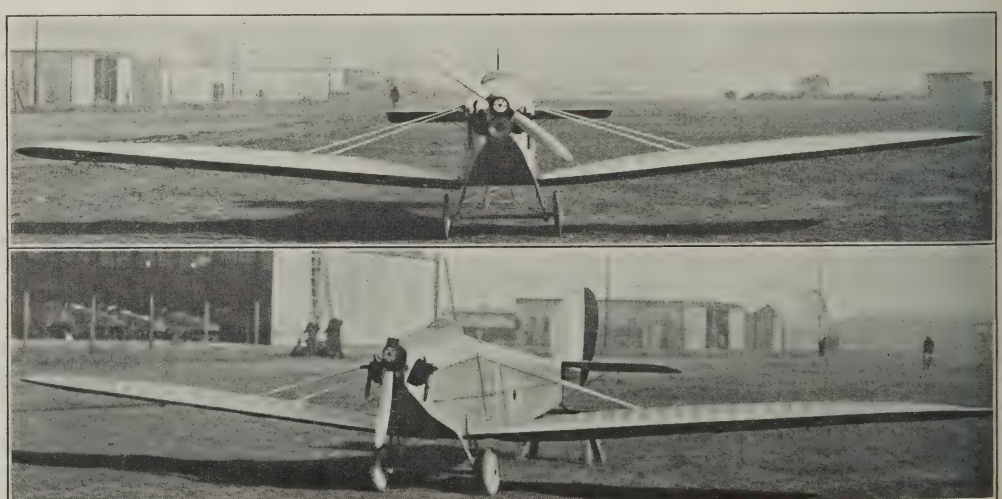
The machine was designed in June, 1924, the only available power plant at the time being a low compression 500 c.c. A.B.C. engine, which had been scrapped after long service on an electrical generating set. All the work on the machine was done by Flt. Lt. Crawford, L-AC. Farmer (R.A.F. Armourer), and Cpl. Howden (R.A.F. Carpenter-Rigger), and naturally their hobby had to be exercised during the afternoons, out of routine working hours

The aeroplane was completed on Dec. 11, 1924, when trials took place. Though not resulting in free flight, they seemed hopeful as the machine answered rudder and elevators well and reached about 30 m.p.h. with tail well up. A lot of experimenting was then indulged in to boost the engine to develop more power, carburettion being the chief difficulty. The pitch of the gear-driven propeller was altered, but no material progress was made until a new power plant utilising the worn out parts of two 500 c.c. A.B.C. engines was designed and built.

Parts of the camshafts and crankshafts were coupled, and the two crankcases, with a certain amount of machining, were combined to form one case. A four-cylinder magneto was adapted, driven by chain from the crankshaft and eventually the engine was assembled and a hub and thrust race for the engine shaft manufactured. The engine was designed in the beginning of January and in a month had been fitted and proved quite successful.

The beginning of February, 1925, saw the first successful flight and since then quite a number of flights have been made by Flt. Lt. Crawford, Flt. Lt. Ashton and Flt. Lt. Dixon and a complete circuit of Hinaidi aerodrome was flown by Flg. Off. Attwood on Mar. 4, 1925.

The machine handles well and is the embodiment of sim-



Two views of the Light Aeroplane built at the 'Iraq Aircraft Depot, Hinaidi.



Boulton & Paul
Aircraft
NORWICH, ENGLAND

plicity; the only gadgets being a petrol tap, throttle lever, switch, and, of course, a control column and rudder bar. As the weight empty is only 250 lbs. she can be handled comfortably by one or two people and the engine usually starts on the first swing after " sucking-in " rich mixture.

The fuselage is a Warren girder built up of spruce longerons, and vertical and diagonal struts. The front part of the fuselage is covered, sides and bottom, with three-ply wood and top with aluminium cowling. The rear portion of the body is fabric covered.

A simple " V " undercarriage with two hollow wooden wheels on a rubber sprung axle forms the landing gear. A small rubber sprung tail skid is embodied with the stern post. To the latter, the balanced rudder is hinged. The tail plane, which can easily be adjusted for incidence, is attached to the top longeron, and the rear spar is braced to the bottom of the sternpost by streamline steel tubes.

The wings are placed low on the machine and support the weight of the aircraft through streamlined steel compression struts. The wing section is based on R.A.F. 15, but tapered to suit the spar depths.

The engine mounting consists of $\frac{3}{8}$ in. seven-ply bulkhead fitted to the nose of the fuselage. The crankcase is bolted direct to this bulkhead by two 7-16 in. bolts, the front end of the crankcase being supported by two $\frac{3}{8}$ in. tubular steel struts bolted at their lower ends to the bulkhead in close proximity to the lower longerons.

A one gallon brass petrol tank is mounted directly in front of the pilot's cockpit and petrol pipe and controls pass through a fire-proof screen to the engine compartments in the accepted manner. A small oil tank is bolted direct to the crankcase and oil is fed to the engine by a mechanical pump.

ADVANCING AUSTRALIA.

The Australian Aero Club have recently approached the Town Planning Association with a view to encouraging the establishment of landing grounds by municipal councils throughout Australia. This matter was taken up most enthusiastically by the Association at its last conference and it was recommended that a letter be sent to the Councils of the leading cities and towns recommending the reservation of areas suitable for landing grounds.

Within a month replies were received from the following towns stating that they were taking immediate action: Cowra, Woolongong, Coraki, Liverpool, East Maitland, Coon, amble, Condobolin, Nyngan, Moss Vale, Camden, Launceston, Parkes, Grafton, Adelaide, Forbes and Goulburn.

The following towns are investigating the proposal: Ballarat, Hobart, Young, Orange, Grenfell, Dundas, Katoomba, Junee, Yass, Brisbane and Toowoomba.

Replies were received from other centres, such as Newcastle and Perth, saying they had already taken action, and letters are still being received all showing the keenest interest in the proposal.

AN AUSTRALIAN SURVEY.

On Sept. 11, Group Capt. R. Williams, D.S.O., O.B.E., Chief of the Australian Air Staff; Sq. Ldr. Hepburn, and Flt. Lt. Murphy, R.A.A.F., who left Melbourne on July 21 on a D.H.50 and two D.H.9s on an aerial survey for the establishment of aerial routes and aerodromes throughout Australia, returned to Melbourne after having covered a total distance of 13,000 miles.

Valuable data were obtained, and the interesting discovery was made of three uncharted rivers in Melville Island, off the north coast of Australia.

U.S. NAVAL AVIATION PROGRAMME.

A *Reuter* message from Washington dated September 29 states :—

The naval aviation building programme for the fiscal year beginning July 1 next, as announced by Mr. Wilbur, Secretary of the Navy, to-day, will provide for the purchase of 147 'planes, including forty-eight combined torpedo bombing and scouting 'planes, at a cost of $7,600,000.

AERIAL SURVEY BY THE U.S. AIR CORPS.

The U.S. War Department has authorised two aerial survey detachments of the Air Corps to assist the U.S. Geological Survey in mapping extensive areas in various states throughout the country during the present year. Each detachment is to consist of a commissioned officer of the Air Corps, who is a photographic pilot, and an enlisted photographer, and will be equipped with a tri-lens camera and accessories, and two special photographic machines.

The personnel of the detachments are under the direct control of the Chief of the Air Corps and will be relieved of all military duties for a period of six months.

One detachment will photograph an area of approximately 8,000 square miles in Maine, New Hampshire and Vermont. The other detachment will begin with a 4,000 square mile area in Illinois and will then go on to areas in Michegan and Wisconsin.

RESERVE TRAINING IN THE U.S.A.

According to *Aviation*, New York, when the 1927 summer instruction season ends in September, over 17,000 Air Corps Reserves and National Guard officers, as well as R.O.T.C. students, will have attended the various U.S. Army aviation training camps.

The instructors of these courses are Army Air Corps officers, and the training camps are supervised through the various Army Corps Area Headquarters. The courses of training are open to war-time pilots who are no longer in the Regular Army, and are also available to civil and commercial pilots.

PAVED AERODROMES.

According to the Aeronautics Branch of the American Department of Commerce, more than 1,000 airports and intermediate fields will dot the United States from coast to coast and from Canada to the Gulf of Mexico by the end of 1927.

A survey just completed shows that 865 permanent stations are now in use, with 187 cities definitely considering the establishment of municipal airports. Of the present stations 207 are municipally owned. Chambers of Commerce, business clubs and other civic organisations are co-operating in the effort to build up a complete airway and airport system.

Many authorities in the States are urging permanent construction for airport buildings, and especially for fields and runways. Planes for projected passenger lines, carrying as many as 30 passengers, such as the Ford line between Chicago and Los Angeles, and seven or eight-ton freight planes will require rigid landing surfaces. Turf and cinders, it is claimed, will not stand the wear.

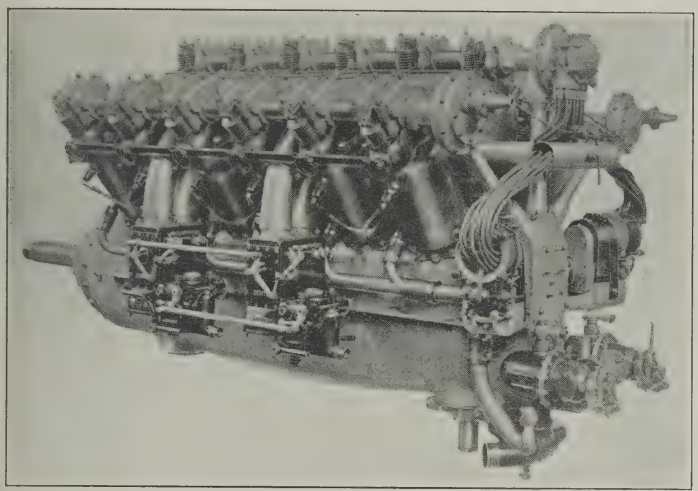
It is recommended that runways of concrete 100 feet wide should be laid, or even that the entire aerodromes should be of concrete, particularly since this permits landing and " taking-off " regardless of weather conditions.

The idea is at any rate worth considering.



A NEW TORPEDO BOMBER.—The Handley Page Harrow, a two-seat torpedo-carrier and bomber fitted with a 450 h.p. Napier Lion engine.

LORRAINE-DIETRICH AERO ENGINES



650 H.P. Direct Drive or Geared.

Have the benefit of the Greatest Technical Experience.

Of Simple Design and Construction, Economic in Upkeep, and Reliable in Operation.

Lorraine-Dietrich Engines are the most widely known and the most widely used in the world.

They enable thousands of Military and Civil Aircraft to carry on unnoticed their regular routine duties.

They have also made possible a large number of outstanding achievements known the world over.

1925.

Rome—Melbourne—Tokio—Rome. Colonel the Marchese de Pinedo. Savoia Flying Boat (450 h.p.). 54,000 kms. in 380 hours.

New York—Buenos Aires. MM. Duggan, Oliveiro, Campanelli. Savoia Flying Boat (450 h.p.).

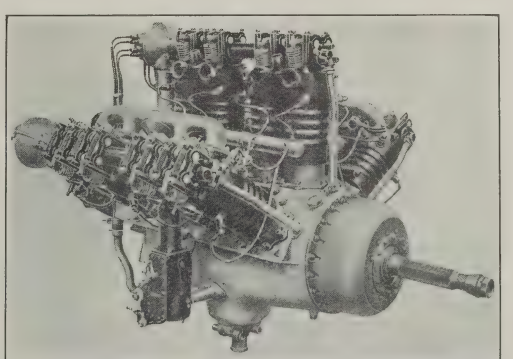
1926.

Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris—Rome—Tunis—Casablanca—Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs 45 mins.



450 H.P. Direct Drive or Geared.

1927.

Across Africa. Capt. De Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h.p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h.p.). 2,565 kms. in 17 hrs. 30 mins.

SOCIÉTÉ LORRAINE-DIETRICH, Argenteuil (Seine et Oise), France.

FOUR NEW FLYING CLUBS TO BE SUBSIDISED.

At the formal opening of the Bristol and Wessex Aeroplane Club at Filton Aerodrome on Saturday, Oct. 8, Sir Samuel Hoare, Secretary of State for Air, announced that the Air Ministry had decided to grant subsidies for the next three years to four flying clubs in addition to the six already so supported.

The four additional clubs will be the Bristol and Wessex Aeroplane Club, the Norwich Aero Club, the Nottingham Aero Club, and the Scottish Flying Club. The subsidy for these clubs will be based on precisely the same terms as those which now apply to the six clubs previously subsidised. These terms are described and discussed.

FLYING CLUBS AND THE NEW SUBSIDY.

[The following article is published because it may give a view which is probably held by some members (and perhaps some Committees) of some Flying Clubs. Personally one has always held, with Mr. Churchill, that Civil Aviation should fly by itself. And in any case, one should not look a gift horse in the mouth. There is no really adequate reason why the British Taxpayer should be compelled to subsidise joy-riding, whether by "A" pilots or their friends. And the Clubs ought to feel grateful for getting any subsidy at all, instead of grumbling at what they do get.—C. G. G.]

Under the original scheme of financial support from the Air Ministry which has been responsible for the growth of the Flying Club movement in this country a certain number of approved Flying Clubs received a contribution towards the purchase price of their initial fleet of aeroplanes, and thereafter a fixed annual subsidy which depended in no way on the results of their efforts, except that the Air Ministry might at its own discretion remove any club from the approved list if it were considered to be inefficient.

It was however made quite clear to the clubs that during the period of working under this arrangement, which at the outside would extend to three years, they would have to prove that they could give good value for the subsidy in order to justify any further official support in cash.

It has been felt by the Committee of practically all the clubs that the best way to justify their existence and to qualify for continued assistance was to concentrate on training as many new pilots as possible, and on getting in the maximum number of flying hours.

The original fixed subsidy arrangement has now been superseded by an entirely new scheme of payment by results. This new scheme came into force on Aug. 1 for the London Aeroplane Club, and apparently at a slightly later date in the case of some others.

The new scheme provides for a grant of £50 for each new pilot trained, together with a payment of 30s. per flying hour up to a maximum of 20 hours for each trained pilot member of the club.

The total sum which can be earned by each club in any one year is limited to £2,000.

Under this system the subsidy encourages the clubs to regard themselves primarily as elementary training schools, and gives them no incentive to encourage their pilot members to fly more than the subsidised 20 hours per annum per pilot.

A newly-trained pilot who flies his twenty hours in the year of his training brings the club £80 in the form of subsidy. Excluding depreciation, which at present is a somewhat uncertain figure, the cost of flying to the clubs averages about £3 per hour, or £60 for twenty hours, so the club stands to make say £20 on each such pilot, apart from the flying fees which he pays himself.

A pilot who already has his ticket and flies his twenty hours brings in £30 in subsidy and costs the club £60.

The maximum subsidy of £2,000 per annum can be earned with the maximum profit to the club by training 25 new pilots per year, each of whom flies exactly twenty hours in that year. This would leave the club with £500 towards the cost of any further flying by its members. Apart from payments by members this would justify about 170 hours of unsubsidised flying.

If the previous scale—usually about 30s. per flying hour—were charged to members the club would begin to lose money after 340 hours of such flying. In other words the total amount of flying including that of newly-trained pilots would have to be limited to 840 hours per annum if a deficit were not to be incurred.

Under these conditions obviously the clubs will be forced to concentrate, firstly, in training new pupils. After new pupils—quite a long way after—they will try and get as many as possible of their already trained pilots to put in their 20 hours per annum. And members who have already completed their twenty hours will either have to be boomed off or made to pay a higher scale for their flying.

The Lancashire Club have in fact already instituted a new scale of charges for flying which shows very clearly the effect of the new subsidy.

These charges are:—(1) For the first twenty hours flying in each year, either as pilot or under instruction, 30s. per hour. (2) For all subsequent flying, 40s. per hour, and (3) for all flights in which passengers are carried, who are not members of the Club, 60s. per hour.

The obvious effect of this new scale is to discourage Club pilots from exceeding 20 hours' flying per year, and even more to discourage them from taking non-members up for trial flights. Twenty hours' flying per annum is not enough to produce really skilled pilots, and giving joy-rides to the right type of non-member is a very sound method of increasing the Club's membership.

So that the new scheme will tend to produce the largest number of pilots who can just fly, but who cannot be encouraged to fly too much, and to discourage propaganda work of a type very likely indeed to awaken a vivid interest in flying.

Fortunately one does not believe that any large proportion of those club members who have the makings of good pilots in them will stop short at their twenty hours of flying because of the extra 10s. per hour that it will cost them after that. But it is quite certain that many of them will have to content themselves with fewer hours of flying experience than they would have done had the old rate still been in force.

The result may—or may not—be one pleasing to the Air Ministry. But it does look as though it is going appreciably to restrict the activities of the keener but more impecunious flying members and to some extent to scare off would-be members who would like to fly if flying could be made cheap enough.

ANOTHER LIGHT AEROPLANE RECORD.

On Sept. 9 Capt. Hamsik flew from Prague to Reval, Esthonia, non-stop on an Avia B.H.10 (60 h.p. Walter engine), a distance of 1,230 kms. (764 miles) in 9 hrs. 10 mins.

This flight has been homologated by the F.A.I. as a World's Record for distance covered in a straight line for single-seat light aeroplanes weighing under 350 kgs.

It is well to recall that on Aug. 27 Mr. Bert Hinkler flew from London to Riga on an Avro Avian (32-80 h.p. A.D.C. Cirrus engine), a total distance of 1,200 miles in 10¾ hours non-stop, but unfortunately this flight was not officially observed.

A LIGHT AEROPLANE HEIGHT RECORD.

On Oct. 8, at Woodford, Cheshire, Mrs. S. C. Eliott Lynn, on an Avro Avian (Avro Alpha engine) and carrying a passenger, reached a height of 19,200 feet. This, it is believed, will constitute a height record in the two-seat light aeroplane class when it is homologated.

The present record is held by the Hon. Lady Bailey, who, accompanied by Mrs. Geoffrey de Havilland, reached a height of 17,283 feet on a D.H. Moth (A.D.C. Cirrus II engine) on July 5 at Stag Lane.

ENGLAND—AUSTRALIA.

The attached photograph shows the Avro Avian (32-80 h.p. A.D.C. Cirrus II engines) on which Mr. W. N. Lancaster and Mrs. Keith Miller will shortly attempt to fly from England to Australia.

The machine is perfectly standard except that larger tanks have been fitted which, at a cruising speed of 80 m.p.h., will give an effective range of 9 hours. Pilot and passenger will travel light and each will carry only 21 lbs. of luggage.



TOWARDS AUSTRALIA.—The Avro Avian (32/80 h.p. A.D.C. Cirrus engine) on which Mr. W. N. Lancaster, who is seen standing by the machine, and Mrs. Keith Miller will attempt to fly to Australia.

TITANINE

THE WORLD'S PREMIER

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AND THE

AVRO "AVIAN"

Mr. BERT HINKLER'S

30/80 h.p. "Cirrus Avian," on which he made the

LONGEST LIGHT AEROPLANE NON-STOP FLIGHT

(CROYDON to RIGA, LATVIA—1,200 miles),

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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Oct. 2.

Flying Time 20 hr. *Instruction* 11 hr. 55 min. *Soloists* 7 hr. 10 min. *Passengers* 55 min. *Instruction.—With Mr. F. G. M. Sparks*—A. J. Richardson, G. W. Hall, Miss Wilson, E. C. T. Edwards, R. G. Whalley, J. G. Crammond, L. Daniels, R. G. Whalley. *With Mr. S. L. F. St. Barbe*—A. J. Richardson, F. Yeats-Brown, L. Daniels, J. A. Brewster, M. Parkin, D. H. M. Symon, R. C. Presland, Capt. Burt, G. W. Hall, C. G. W. Ebbutt, O. J. Tapper. *Soloists.*—A. F. Wallace, Major Beaumont, G. W. Hall, Miss O'Brien, I. C. Horton, J. J. Hofer, W. Roche-Kelly, J. G. Crammond. *Passengers.—With Mr. F. G. M. Sparks*—Mrs. McKay. *With Mr. S. L. F. St. Barbe*—A. Fowler. *With Mr. G. H. Craig*—A. Fowler

Mr. J. H. Veasey passed for his Aviator's Certificate on Sept. 22 and Mr. J. G. Crammond Sept. 28.

Arrangements have been made for flying instruction to be given in the early morning to advanced pupils. Bookings by advanced pupils can now be made from 8 a.m. on weekdays (Mondays excepted).

Report for week ending Oct. 9.

Flying Time 34 hr. 35 min. *Dual* 18 hr. 20 min. *Solo* 12 hr. 40 min. *Passenger flights* 3 hr. 35 min.

Dual Instruction.—With Mr. F. G. M. Sparks—L. Daniels, H. R. Presland, R. Taylor, Capt. Burt, C. N. Brand, A. J. Richardson, H. Solomon, P. W. Hoare, R. Andrews, Miss Wilson, J. H. Vaizey, F. A. I. Muntz, G. W. Hall, G. H. Weston, J. Bickley, J. A. Brewster, G. Black, G. E. Clair, H. Michelmore, G. Black, H. J. Greenland, E. A. Lingard, L. Rowson. *With Mr. S. L. F. St. Barbe*—F. Yeats-Brown, Miss Wilson, E. C. Edwards, M. Parkin, H. J. Greenland, M. P. Susman.

Solo Flying.—R. Sanders Clark, O. J. Tapper, J. J. Hofer, R. Taylor, G. C. Bonner, A. F. Wallace, B. B. Tucker, P. W. Hoare, J. H. Vaizey, C. H. Swan, G. W. Hall, W. Roche-Kelly, Sq. Ldr. Wright, K. V. Wright, Maj. Beaumont.

Passenger Flights.—With Mr. F. G. M. Sparks—J. M. Roberts. *With W. Hay*—A. Fowler, R. Hayes. *With A. G. D. Alderson*—H. J. Kemp, *With R. Malcolm*—C. D. Elliott, Maj. Beaumont, A. Fowler.

Bristol Flying Meeting.—At the opening ceremony of the Bristol and Wessex Aero Club at Filton, Bristol, on Saturday last by the Secretary of State for Air, Sir Samuel Hoare, Bart., the London Aeroplane Club was represented by Major K. M. Beaumont, D.S.O., and Mr. S. L. F. St. Barbe, who flew down in a D.H. Moth.

Fatal Accident.—It is with deep regret we have to announce a fatal accident to Mr. Charles Harold Swan on Sunday last. Mr. Swan was carrying out the altitude test for his Aviator's Certificate and was making the descent with engine cut off. At the moment no further details are available.

September Flying Time.—The total flying time for the month of September was 159 hr. 20 min. *Dual Instruction* 73 hr. 55 min. *Solo* 43 hr. 55 min. *Passenger Flights* 17 hr. 45 min. *Race Meetings* 11 hr. 5 min. *Test Flights* 12 hr. 40 min.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Chester.]

Report for week ending Oct. 3.

Flying Time 19 hr. 30 min. *Instruction* 3 hr. 10 min. *Solo Flights* 5 hr. 45 min. *Passenger Flights* 1 hr. 10 min. *Flying Pageant* 9 hr. 25 min. *Instruction.—With Mr. Brown*—Messrs. Sykes, Allott, Fisher, Anderson, Caldecott, and Davidson. *With Mr. Cantrill*—Messrs. Fisher, Ward, Caldecott, and Allott. *Soloists (under instruction).*—Nil. *Pilots.*—Messrs. Gattrell, Leeming, Lacayo, Twemlow, Williams, Costa, Goodfellow, Scholes. *Passengers.—With Messrs. Scholes, Costa, Gattrell, Twemlow, Williams, Chapman, Lacayo, Leeming and Cantrill*—Mrs. Walker, Miss Emery, Messrs. Butt, Almeida, Holland, Ward, Browning, F. Scholes, Schofield, Parker, Rowley, Bartram, Miss Davies.

Notes.—Scholes and Dobson tried hard to get over to Yorkshire on Saturday. Scholes was away soon after 8.0 a.m., but as Dobson did not leave the deck he landed again to ascertain the trouble. This was that Dobson, who was flying Mrs. Eliott Lynn's streamlined Avian, proved considerably greater in circumference than the lady in question and had been unable to squeeze himself through the opening in the fairing cover of the cockpit. Shoehorns were obtained, but all to no purpose, and finally the aperture had to be increased. This caused some delay, during which the weather over the Pennines grew steadily worse. Both pilots made an attempt to get through over, under, or round it, but had to abandon the attempt and return to Woodford in disgust. A strong feeling is growing up that the Pennines, which form an irritating barrier to aeronautical communications between the two great counties of England, should be removed. Alternatively a Pennine Tunnel might be constructed.

Report for week ending Oct. 8.

Flying Time 11 hr. 30 min. *Instruction* 3 hr. 35 min. *Solo Flights* 3 hr. 45 min. *Passenger Flights* 3 hr. 30 min. *Test Flights* 40 min. *Instruction.—With Mr. Brown*—Messrs. Browning, Allott, Hall, Fallon, Twemlow, Anderson, Meads, Sykes, Benson, Heath, Dr. Wilson. *Soloists (under instruction).*—Messrs. Meads, Rowley and Caldecott. *Pilots.*—Messrs. Twemlow, Michelson and Ward. *Passengers.—With Mr. Brown*—Messrs. Percival, Messum and Moran. *With Mr. Scholes*—Miss Barlow, Messrs. F. Scholes and Barlow. *With Mr. Twemlow*—Mrs. Twemlow, Messrs. Gerrard, Allott and Moran. *With Mr. Costa*—Mr. Leeming.

Notes.—The weather has been mostly fair, but with a lot of ground mist and fog. RR met with a minor mishap on Tuesday which, as ill-luck would have it, damaged a main spar and put her out of commission. On Sunday, with many people waiting for flights, the Renault-Avro met with the first accident of her career by reason of a bad pancake. Fortunately the undercarriage alone was damaged and she will not be long out of action.

We had no club machine available to send to the Bristol and Wessex Club's meeting, but Mr. Hollingdrake went over on his own Avian and Mr. Goodfellow hired, borrowed, or stole another Avian from Avros on which he started in pursuit. They met fog within the first forty miles; Hollingdrake tried to go over it and Goodfellow under it and both frequently wished they hadn't. Later in the day a wire was received, "Arrived safely. Very thick day. Anticipating very thick night." Goodfellow returned on Sunday, very blood-shot about the eyes, which he attributed to having no wind-screen. He thinks that the Bristol Club ought to close down at once—so as to have a Re-opening Meeting.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Oct. 2.

Flying Time 8 hr. 40 min. *Instruction (With Mr. Parkinson)* 5 hr. 35 min. *Soloists (under Instruction)* 30 min. *"A" Pilots* 2 hr. 35 min. *Instruction.—With Mr. Parkinson*—Sir Joseph Reed, Messrs. Lawson, Robertson, Wilson, Heaton, Turnbull, Griffiths. *Soloists.*—Mr. McDougall. *"A" Pilots.*—Mrs. Hislop, Miss Leathart, Messrs. Wilson, Robertson, Turnbull, Maxwell.

Flying was possible on only two days, previous to Friday, owing to wind and fog. On Friday, Mr. Parkinson, with Miss Leathart as passenger, flew to Sherburn to take part in the Yorkshire Club's Meeting. The Club took second place in the Wattle Handicap.

The Club wishes to congratulate the Yorkshire Club on their excellent organisation of their Meeting and heartily sympathises with them on their misfortune in having such very bad weather on both days of the Meeting. The members who attended the Meeting wish to thank the Club for their hospitality which was fully appreciated.

The Yorkshire Aeroplane Club.

[Sec.: D. M. Coles, Sherburn Aerodrome, Yorks.]

The Yorkshire Aeroplane Club's Pageant at Sherburn-in-Elmet on Oct. 1 and 2 suffered even more from the weather than did the Liverpool meeting the week before. On Saturday morning it rained heavily and persistently, and although the rain more or less stopped before the advertised time of opening of the races, the effect of the morning weather on the attendance was disastrous, because the aerodrome is so far away from everywhere that by the time the rain had moderated it was too late for anyone to start. And even when it did not rain it blew.

The Saturday programme of racing and exhibition flying was not seriously upset. The last event—the Wattle Handicap—which was to have been purely a comic affair, of a nature not disclosed on the programme, was deleted, but otherwise all the events took place promptly to scheduled time.

There was one decided blemish on the meeting which must have made proceedings very perplexing indeed to the average looker-on. As a matter of fact it was perplexing even to the officials and judges.

Quite a number of competitors turned up at Sherburn not on the machines on which they had entered, but on other machines altogether—sometimes not even of the same type. The only identifying marks given on the programme were the ordinary registration letters of the machine, and as a result it was quite impossible in many cases to connect the entries given in the programme with the machines which were actually flying. In fact in the Ladies' Handicap no one of the five machines which took part was a machine mentioned in the programme as competing therein.

In addition to this the announcing and broadcasting organisation broke down, and, to crown all, the only official notes of the results of the day's racing were captured—quite innocently—by the representative of the leading Yorkshire newspaper.

The last event of the day—the Ladies' Handicap—produced an excellent finish which undoubtedly helped to cheer up the officials of the Yorkshire Club. It was won from a field of five by Miss Woodhead, a member of the Club who has very recently taken her ticket, and who was flying her first race. If anything she increased her initial lead from Miss O'Brien, who finished second, so this success is a distinct score for the Yorkshire Club and its Chief Instructor, Mr. Beck.

Apart from races, Flt. Lt. Lydford, A.F.C., and Flt. Lt. F. J. Fogarty, D.F.C., from the Central Flying School, gave an exhibition of crazy flying on Lynx Avros which was watched with surprisingly intelligent interest by the few spectators present.

One of the Surrey Flying Services Avros gave a display of wing walking and dropped Miss "June" from a parachute. As there was a wind of about 25 to 30 m.p.h. blowing at the time and the ground was wet and very slippery the parachutist had a very bad time of it and was rather nastily cut.

At intervals during the afternoon a very agile gentleman attached to a small balloon gave a display of balloon jumping. With a wind such as was then blowing this performance would in the ordinary way have been dangerous, and accordingly a long trail rope was attached to the jumper and a small body of energetic boy scouts were given the end of the rope with instructions to stop further progress of the outfit when it approached the aerodrome boundaries.

The sight of one apparently helpless man tied onto a gas-bag progressing in a series of combined hops and slides across a wet and muddy aerodrome and towing six large boy scouts behind him was certainly funny. But it was not a good advertisement for balloon jumping as a sport. Under these conditions it looked both ludicrous and uncomfortable.

For the Sunday no fixed programme had been arranged. The intention was to improvise landing and balloon-bursting competitions, and generally to have a display as informal but as interesting as it could be made.

Unfortunately Sunday was an even worse day than Saturday. Perhaps it did not rain for quite so long, but there was at least one specimen of weather that deserved the name of a cloudburst. Far worse than this, however, was the fact that the wind never dropped below 40 m.p.h. on the ground during the day and flying was simply impossible. It is true that Mr. Robinson of Imperial Airways made one or two flights before 11 a.m. on a Handley Page W.10 which was present at the meeting, but he reported that the machine was uncontrollable near the ground and when he gave up no one else could be expected to carry on. Some idea of the strength of one

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squall may be gathered from the fact that this machine, which was pegged down by the wing-tips and tail, was lifted bodily off the ground, although full of people who had taken shelter in the cabin. Only the ropes prevented it from being blown over.

In spite of the weather far more people turned up on Sunday than on Saturday. Though they saw no flying the majority of them seemed to be thoroughly interested and appeared to understand the impossibility of flying in such weather.

The Yorkshire Club really deserve every congratulation for the way in which they handled this particular emergency. The public were invited into the sheds, where they found a member of the Club in charge of each machine, ready to explain its characteristics to them, to demonstrate the methods of control, to show how the wings folded, etc., and generally to try and interest visitors in matters aeronautical. It must be said that the visitors showed a really keen and intelligent interest in this impromptu Aero Show.—W. H. S.

Results of the Races.

The President's Light Aeroplane Handicap:—First, Mr. B. Martin (Nottingham Club), Moth X G-EBSK; Second, Mrs. Eliott Lynn (Moth G-EBTP); Third, Mr. F. G. M. Sparks (London Club), G-EBMF.

The Private Owners' Handicap:—First, Flg. Off. A. F. Scroggs (Flg. Off. A. H. Wheeler's S.E.5a G-EBQM); Second, Mr. F. G. M. Sparks (Mr. Will Hays's Airdisco S.E.5a G-EBTO); Third, Miss O'Brien (Moth I, G-EBOS).

The Open Handicap:—First, Flg. Off. A. F. Scroggs (S.E.5a G-EBQM); Second, Mr. F. G. M. Sparks (Airdisco S.E.5a G-EBTO); Third, Mrs. Eliott Lynn (S.E.5a G-EBPA).

The Ladies' Handicap:—First, Miss Woodhead (Moth I G-EBNN); Second, Miss O'Brien (Moth I G-EBOS); Third, The Hon. Lady Bailey (Moth I G-EBMF).

Consolation Race:—First, Mrs. Eliott Lynn (S.E.5a G-EBPA); Second, Mr. Parkinson (Newcastle Club) (Moth G-EBQV).

Report for week ending Sept. 25.

Flying Times—Instruction 3 hr. 40 min. *Soloists* 9 hr. 50 min. *Passengers* 1 hr. 10 min. *Total Flying* 14 hr. 40 min. *Instruction.—With Mr. Beck*—Messrs. Hirst, Yeomans, Parker, Wilson, Bailey, Crowther, Fielden, Humphries, Ellison, Wood and Dujarden. *Soloists.*—R. K. Lax. *"A" Licence.*—Miss Woodhead, Messrs Thomson, Brackenbury, Mann, Wilson and Wood. *Passengers with Mr. Beck.*—Messrs. Nash, Crouch and Stevenson.

Report for week ending Oct. 1.

Flying Times—Instruction 6 hr. *Soloists* 9 hr. 30 min. *Passengers* 2 hr. *Total Flying Times* 17 hr. 30 min. *Instruction.—With Mr. Beck*—General Atcherley, Miss Woodhead, Messrs Demaine, Crowther, Mann, Dawson, Bailey, Swift, Little, Yeomans, Ellis, Humphries, Carter and Birch. *"A" Licence.*—Miss Woodhead, Messrs. Mann, Dawson, Thomson, Wilson, Wood and Norway.

Report for week ending Oct. 8.

Total Flying Time 16 hr. 10 min.

Flying Times—Instruction 4 hr. 50 min. *Soloists* 7 hr. 25 min. *Passengers* 3 hr. 55 min. *Instruction.—With Mr. Beck*—Miss Woodhead, Messrs. Rhodes, Ellis, Ellison, Little, Fitton, Hirst and Leuty. *With Mr. Fielden*—Miss Collins. *Passengers with Mr. Beck.*—Mrs. Norton and Mr. Basford.

This week we must conclude our remarks with an apology to all concerned for our apparent laxity in not sending reports for the two preceding weeks. This, by the way, was not laxity, but due to the pressure of Pageant work.

Let us finish with the glad news that Capt. "Toney" Milburn has taken a decided turn for the better, and is, we hope, now on the road to recovery.

The Midland Aero Club.

[Sec.: Gilbert Denison, Villa Road, Handsworth, Birmingham.]

Report for week ending Sept. 24.

Total Flying Time 12 hr. 18 min. *Dual Instruction.—With Mr. McDonough*—R. L. Brinton, D. Patten-Bethune, H. J. Lattey, E. P. Lane, R. D. Bednell. *Solo.*—C. W. Fellowes, S. H. Smith, R. D. Bednell, R. L. Jackson, R. Cazalet, E. R. King. *Passenger Flights.—With Mr. Willis*—A. Hamilton. *With Mr. Brighton*—L. V. Mann, D. Yates, E. D. Wynn, R. Darlington, E. M. Kerr.

General Report.—The Midland Aero Club was represented by one D.H. Moth at the Hooton Park Meeting on Sept. 24. Mr. McDonough took second place in the Hooton Park Handicap and Stakes.

Report for week ending Oct. 1.

Total Flying Time 12 hr. 13 min. *Dual Instruction.—With Mr. McDonough*—R. L. Brinton, E. P. Lane, H. Lattey, Capt. J. E. Brewin, R. Darlington, G. Robson, H. J. Willis. *Solo.*—R. L. Jackson, R. D. Bednell, R. Cazalet, S. H. Smith, E. J. Brighton. *Passengers with Mr. Brighton.*—D. B. Browne, E. Skuce, S. L. Buckle, G. R. Paxman, L. V. Mann, A. E. Ackling.

General Report.—On Sunday, Mr. McDonough flew back from the Liverpool Meeting. The first member of the Club to become an Owner Pilot is Mr. R. Cazalet, who recently acquired a Westland Widgeon III (Cirrus Mark II), which is housed in the Club hangar.

Report for week ending Oct. 8.

Total Flying Time 13 hr. 50 min. *Dual Instruction.—With Mr. McDonough*—G. Robson, R. Darlington, O. L. Richards, S. Duckitt, H. Lattey, Capt. J. E. Brewin, R. L. Brinton, N. Crane. *Solo.*—R. D. Bednell, E. R. King, C. Fellowes, S. H. Smith, R. Cazalet, E. J. Brighton, W. Swann, R. L. Jackson. *Passengers with Mr. Brighton.*—H. C. Tower, E. G. Hall.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Oct. 2.

Flying Time 15 hr. 50 min. *Instruction* 10 hr. 10 min. *Soloists* 4 hr. 35 min. *Passengers* 35 min. *Tests* 30 min. *Instruction.—With Flt. Lt. Thomson*—Mrs. Aitken-Dick, Lt.-Cdr. Woodhouse, R.N., Lt. Kidston, R.N., Lt. Lambe, R.N., Lt. Richardson, R.N., Capt. Molyneux, M.C., Messrs. Evans, Endacott, Stanford, Molony, Williamson, Hall, Kerry, Hancocks, Collins, Grahame Gibbs, Courtney, Whittle, Brewster and Shepherd. *Soloists.*—Don Juan de la Cierva, Flg. Off. Southey, Lt. Graham, R.N., Messrs. R. Sanders Clark, Wyllie, Wells, Molony, and Bowen. *Passengers.—With Flt. Lt. Thomson*—Mrs. Grahame Gibbs, Mr. Hillaire Brady and Mr. Massey. *With K. P. L. Bowen*—Mr. Swinburn.

Three days this week were impossible for flying. To quote *The Daily Mail*, "Gales and rainstorms of great intensity swept the country, causing loss of life and extensive damage to property."

Many members have contributed to the fund for the purchase of another aeroplane and already over one hundred pounds has been guaranteed. As the Directors have promised to double the amount subscribed by the members, it should be possible to buy another machine before long.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for 21 days ending Oct. 2.

Flying Time 30 hr. *Instruction.—With Mr. G. F. Lines*—Messrs. A. Cooper, H. Varden-Smith, R. Harmer, A. J. Finch, G. F. Surtees, H. Neave, H. Mack. *Soloists.*—Messrs. H. Birchal, R. Harmer, W. P. Cubitt, H. Pank, W. H. Ramsey, R. W. F. Moore, F. Gough. *Passengers.—With Mr. Lines*—Miss Scarles. *With Mr. Moore*—Mr. A. Sutto.

The weather during the above period defies all description, although many of our active merchants have been heard to use unusual expressions and the boy Herbert, appeared on the scene of inactivity, with an umbrella completely unfurled (but only once), in addition to this piece of excitement he carefully attempted to place our Moth under cover per the key hole and alas two further days were lost.

Most of the flying was done between showers and it speaks volumes for our instructor when one notes that 30 hours have been squeezed in. The manner in which members have constantly turned up is very encouraging indeed.

Little Cubitt has been at it again, qualified after 4½ hours' solo for an "A" Licence, sat right on the spot in both landings. Also Mr. Pank has qualified for his. Mr. Moore called at the Air Ministry and got his right on the spot,—he was extremely favourably impressed with his reception at the A.M. Several other members are ready to take the tests.

At a recent meeting of the Committee it was decided to allow members to bring a friend along and participate in Aviation on payment of a fee of 5s. per day; this to be known as a "Guest's Fee"; the advantages of this are obvious, many members have friends down for a very short time, but have been unable to make them air-minded under 20s. plus usual flying charges; it will be especially appreciated by "A" merchants.

Our Moth QX will be ready for collection on Friday next. Mr. Lines is taking the loaned machine back and collecting ours at Stag Lane. Mr. H. O. Bennett is accompanying him as a passenger; it is hoped that reasonable weather will prevail; H. O. B. has done a terrific amount of work for the Club as Hon. Sec.

In case one is again delinquent with reports, members are reminded that "As the nights get longer the days grow shorter and the lateness of the evenings becomes earlier."

Report for week ending Oct. 9.

Flying Time 14 hr. 30 min. *Instruction.—With Mr. G. F. Lines*—Messrs. H. Neave, G. Surtees, A. Cooper, H. Varden-Smith, H. Mark,

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W. Lindley. *Soloists.*—Messrs. R. Harmer, W. Cubitt, R. F. W. Moore, W. A. Ramsey. *Passengers.*—Miss Cooper, Messrs. Sutton, H. O. Bennet. *Weather.*—Ideal the whole week.

Notes.—Norwich, the City of Gardens (Post-War) and Pubs (Pre-War), has at last been smiled upon by the powers that be, for, Lo and Behold, we are to receive a subsidy, vide Sir Samuel Hoare, Bristol, 8/10/27.

It is to be hoped that the executive will now tighten their belts and promptly produce another machine; this will enable soloists to exceed the present maximum—15 minute flights.

It is satisfactory to note that since so much wool was found (on numerous occasions) in the carburettor, the sheep (at various times, nearly mutton) have been removed from the ground. Our latest member is said to be a very tough fellow, he eats machinery and shaves with a blow lamp.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Oct. 2.

Flying Time 3 hr. 20 min. *Instruction.*—*With Mr. Carnegie*—Miss D. Creasy, Dr. Sleigh, G. Hutley. *With Sjt. Lowdell*—S. Schofield, N. Creasy. *Passengers.*—The Hon. Lady Bailey, Mrs. Courtney N. Prentice, Mrs. Maitland. *Solo.*—Courtney Prentice.

Our President, the Hon. Lady Bailey, paid us an unexpected visit in her Moth on Monday evening and later had a flight in our Bluebird.

We have now secured an excellent permanent aerodrome at Hadleigh (Suffolk). This was a wartime aerodrome and will probably be remembered by many. We hope to "move in" by Oct. 11.

On Wednesday afternoon the undercarriage of our Bluebird collapsed, although apparently our instructor had made a perfect landing. Unfortunately considerable damage was done, and this has held up flying for the time being. The Blackburn Company have very kindly loaned a spare Bluebird for use while the machine is being repaired so that the actual work of the Club has suffered little interference.

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

THE OFFICIAL OPENING CEREMONY.

On Saturday, Oct. 8, the ceremony of officially declaring open the Bristol Club was performed by the Rt. Hon. Sir Samuel Hoare, Bt., Secretary of State for Air. The ceremony was attended by a large and representative gathering of local representatives, including Alderman E. M. Dyer, the Lord Mayor of Bristol, together with a considerable number of visitors drawn from those interested in flying throughout the country.

THE LORD MAYOR OF BRISTOL, in an address of welcome to the Secretary of State for Air, said that the position held by Bristol in the world of aviation to-day was due to the foresight of the late Sir George White, the founder of the Bristol Aeroplane Company. When Sir George first turned his attention to Aviation some of his friends thought he had gone mad, but they had learnt since then that it was only that he had a clearer vision than themselves.

SIR SAMUEL HOARE said that no City had a name better known in connection with British Aviation than Bristol. The name of the Bristol Fighter was familiar wherever pilots were gathered together, and more recently the Bristol Jupiter engine had achieved world wide fame for its qualities. It was therefore fitting that Bristol should take a prominent place in the forefront of the flying club movement. This movement was entirely British, it was no more than two years old, and it had already been surprisingly successful. To-day the British flying clubs had 1,500 members, and no fewer than 150 of these members had already taken either A or B flying licences.

The success of this movement was primarily due to the sporting instincts of the British race, and it was a good omen for the success of the Bristol Club that so many of their members were so closely connected with other forms of sport in the neighbourhood. He noticed that among the members of the Club they had Mr. Douglas Robinson—a former Captain of the Gloucestershire Cricket XI—showing that they were getting just the type of member that was needed.

The Bristol Club had been started as an act of faith by those concerned entirely without official assurance of support. The Air Ministry were very keen to support the club movement, but had only limited financial resources available. After careful consideration of the subject he was glad to be able to announce that in addition to the six clubs already subsidised they would be able to subsidise four more, and that the Bristol Club was to be the first of these four. Bristol was the capital of the West of England, and would, he hoped, take its proper position as the great flying centre in that part of the country.

MR. A. H. DOWNES-SHAW, Chairman of the Club, in moving a vote of thanks to Sir Samuel Hoare, mentioned that the Club had already twenty-five pupils, three of them ladies, under instruction and had brought four of these to the solo-flying stage. They had already one member who owned his own machine and he had every reason to believe that they would soon have several more owner members.

Thereafter the afternoon was enlivened by a display of flying which despite the poor visibility was eminently successful. There were no races, and the only competition was one in which lady passengers dropped "bombs" at a target. This was won by Mrs. Hutchings, piloted by Mr. Alan Butler on a Moth. There were excellent displays of acrobatic flying, etc., by, among others, Mr. Bartlett, the Club's instructor, and Mr Broad, of the De Havilland Co., and altogether over 90 visitors were taken for passenger flights.

Report for week ending Oct. 1.

Flying Time 7 hr. 30 min. *Instruction* 4 hr. 20 min. *Soloists* 3 hr. 10 min. *Instruction.*—*With Mr. Bartlett*—Miss Miles, Messrs. Roberts, Greenwood, Downes-Shaw, Tratman, and Bathurst. *Soloists under Instruction.*—Messrs. Downes-Shaw, and Tratman.

Owing to bad weather no flying was possible on Sunday, Wednesday, Thursday and Saturday. We hope for an improvement in the weather and that it will be fine for our official opening next Saturday.

Report for week ending Oct. 8.

Flying Time 15 hr. 20 min. *Instruction* 9 hr. 40 min. *Soloists* 3 hr. 30 min. *Passengers* 2 hr. 10 min. *Instruction.*—*With Mr. Bartlett*—Messrs. Welch, Tiarks, Bathurst, T. H. Clarke, E. Hopper, A. E. Stephens, Roberts, Downes-Shaw and Miss Miles. *Soloists under Instruction.*—Messrs. Bathurst, Downes-Shaw and Tratman. *Pilots.*—Mr. E. Hopper and Capt. Barnwell. Mr. Campbell and Mr. Shaw.

The Hon. H. C. H. Bathurst carried out his first solo flight on Thursday and acquitted himself with great credit.

All members of the Club are very grateful to the Right Honourable Sir Samuel Hoare, Bart., G.B.E., C.M.G., M.P., Secretary of State for Air, for coming down and officially opening our Club. The announcement he made that the Club was to be granted the Government Subsidy was received with cheers.

It must be confessed that the fog caused anxiety in the morning and it seemed doubtful if the pilots who had accepted our invitation would be able to fly down. A telephone message was received that Air Vice-Marshal Sir Sefton Brancker, piloted by Capt. Stockbridge on a Blackburn Bluebird, was on his way, and shortly after 12 o'clock the noise of the engine of the first visiting aeroplane was heard, and one after another the machines appeared through the mist and landed on our aerodrome. Sir Sefton Brancker was one of the first to arrive.

Amongst those pilots who came and to whom our thanks are due for the great help they gave us, not only in bringing their machines but by taking up passengers during the afternoon, are: The Hon. Lady Bailey, on a Moth; Mrs. Carberry, on a Moth; Miss O'Brien, on a Moth; The Master of Sempill, on a D.H.51; Mr. A. S. Butler, on a Moth; Mr. L. S. F. St. Barbe, from the London Club, on a Moth; Flt. Lt. L. G. Paget, on a Westland Widgeon; Capt. Hill, on a Westland Widgeon; Sq. Ldr. Probyn, on a Westland Widgeon; Mr. Tapp, on a Westland Widgeon; Mr. Hollindrake, on an Avian; Mr. Goodfellow, from the Lancashire Club, on an Avian; Mr. F. D. Mill, on a Moth; Capt. Boyle, on Mrs. Eliott Lynn's S.E.5.

Already quite a number of new members have sent in application forms, and we only hope that the weather will enable us to continue our flying instruction with all speed.

All members regret that on account of the fog Mr. Fielden, of the Yorkshire Club, was unable to come down.

AN ERROR IN IDENTITY.

According to the programme of the Liverpool Pageant a certain Mr. W. Rogers of the Nottingham Club was the pilot of that Club's Moth X G-EBSK in the Low Power Handicap at Hooton on Sept. 24. G-EBSK finished second in that race, and Mr. Rogers accordingly figures in the results published in THE AEROPLANE of Sept. 28.

His name also appears as the pilot of G-EBSK in the list of results given in *The Elevator*—the official organ of the Lancashire Aero Club, which Club organised the meeting.

Mr. Bernard Martin, the Nottingham Club Instructor, however, states that he is unacquainted with any pilot member of his Club bearing that name, and that he himself flew G-EBSK in the race in question.

THE FIRST CROSS-COUNTRY FLIGHT BY THE AUTO-GIRO.

On Friday, Sept. 30, Senor Don Juan de la Cierva, the inventor and designer of the Auto-Giro, flew from Hamble to Farnborough on an Auto-Giro built by A. V. Roe and Co. Ltd. at Hamble and driven by an Armstrong-Siddeley Lynx engine. The distance, 33 miles, is the longest ever covered across country by a rotary-wing machine.

Though the Auto-Giro is in no sense a helicopter, in that it is not lifted by planes rotated through a mechanical drive, being in fact really a towed-windmill, it has at any rate demonstrated that flying is possible by means other than those of the ordinary rigid wings to which we are accustomed. Senor Don Juan de la Cierva is to be congratulated on his achievements as a designer and a pilot.

Also, this flight by the Auto-Giro will provide a very good answer to those who may ask why the Government *does not* finance helicopters, or why the Government *did* spend so many tens of thousands of pounds on the Brennan humbugcopter. In the first case the flight can be produced to show that we have got one which really flies and so need not spend money on others. In the second case it can be used to justify the waste on the Brennan thing, by showing we have got something for the money. The fact that the machine is not a helicopter need not matter. The questioners will never know the difference.

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THE INFLUENCE OF MILITARY AERONAUTICS ON CIVIL AVIATION.

A short but interesting paper by Mr. Edward P. Warner, the United States' Assistant Secretary of the Navy for Aeronautics, was published in the Journal of the Society of Automotive Engineers for August, 1927.

In this paper Mr. Warner discusses the influence of the requirements of naval and military aeronautics on the development of commercial aircraft, and very emphatically disagrees with the opinion sometimes expressed that it "would have been better for public interest in aviation if airplanes had never been used in the war."

The author points out that progress is the result of specific knowledge, that there has been a very great increase in our specific knowledge of all the aspects of aeronautical engineering and technique as a result of research and experiment which has been undertaken primarily with a view to the needs of military aeronautics, and would not have been undertaken except to meet these needs.

Consequently aeroplane design could not have advanced as far as it has to-day had it not been for the impetus given to experiment by the military and naval authorities of the world at large.

In particular, he considers the suggestion fairly frequently made that for commercial purposes aeroplanes and engines of a somewhat heavier, simpler and cheaper and more robust construction than have been developed for military services are desirable. He says that the extent to which this is true depends on the use to which the particular engine and aeroplane is to be put. Increased weight and size of the aeroplane and its power plant means a reduction in pay load and revenue. If the particular service for which the machine is destined involves many hours of flying at full, or nearly full load per annum, the saving in first cost which would be necessary to compensate for the loss in revenue would have to be very considerable.

Mr. Warner estimates that to compete with an engine of the present type weighing 2 lbs. per h.p. and costing $24 (say £5) per h.p., an engine weighing 3 lbs. per h.p. would need to cost less than $12 per h.p. He does not believe that such an engine could be produced at such a price unless it were sold in large numbers. And commercial aviation does not at present offer a market for many aircraft engines.

For machines likely to be in the air for a relatively small number of hours per annum, first cost may be so much more important than load carrying and revenue-earning capacity that heavier, cheaper and relatively inefficient engines may be justified. In Mr. Warner's opinion these considerations do apply in the case of privately owned low-powered aircraft, and these alone.

AIR LINE STATISTICS FROM ITALY.

The following data as to the operation of five Italian air lines during the year 1926 are based on an official report recently published by the Italian Ministero dell' Aeronautica.

The line between Turin and Trieste, operated by the Societa Italiana Servizi Aerei with Cant 10ter flying-boats, started 355 flights between Apr. 1 and Oct. 15. Of these 9 were never completed and 25 were completed only after very serious delays. Of the nine flights not completed three were abandoned because of machine failures and six because of engine defects. Of the 25 seriously delayed flights 23 are attributed to bad weather and two to engine trouble.

The total distance flown in this service was 201,592 km. (125,000 miles approximately). 1,382 passengers, 1,084 kg. (say 1 ton) of mail, and 11,892 kg. (about 12 tons), of freight and baggage were carried The passengers actually carried represent 97 per cent. of the available seat capacity of the service.

The Turin—Trieste service was suspended in the middle of October, and in its place a seaplane service on the route Venice—Trieste—Zara was instituted. To the end of the year, the number of flights scheduled was 130. Of these 122 were completed on the stage Venice—Trieste, and 92 on the stage Trieste—Zara.

The whole 122 flights on the first stage were completed without serious delay. Two of the flights on the second stage were never completed because of bad weather. This service flew 36,670 km. (22,700 miles) and carried 206 passengers, 100 kg. (220 lbs.) of mail and 1,578 kg. (1½ ton) of freight.

The Societa Anonima di Navigazione Aera ran a seaplane service down the whole Western coast of Italy from Genoa to Palermo, calling at Ostia (for Rome) and Naples. This service opened on Apr. 7, 1926, and to the end of the year the schedule provided 110 flights between Genoa and Ostia, 204 between Ostia and Naples and 192 between Naples and Palermo. Five of these flights were interrupted. The large number of scheduled flights which were never started is due almost entirely to weather conditions.

On the regular service 162,060 km. (100,000 miles) were flown, 1,814 passengers, 5,634 kg. (5½ tons) of mail and freight and 9,931 kg. (10 tons) of luggage were carried. On 24 special flights a further 9,845 km. (say 6,000 miles) were flown and 127 passengers carried.

Another seaplane service between Brindisi and Constantinople, calling at Athens, run by the Societa Anonima Espresso Italiana began on Aug. 1. A total of 50 flights should have been completed by the end of the year, but only 40 of these were started and only 31 were completed The majority of failures to complete flights were caused by engine trouble.

On this service 56,355 km. (say 35,000 miles) were covered carrying 57 passengers, 138 kg. (280 lbs.) of mail and 5,002 kg. (5 tons) of freight.

The service Venice—Vienna, operated by the Societa Anonima Italiana di Navigazione Aerea "Transadriatica" began on Aug. 18 with three services each way per week. In September a daily service was flown as between Venice and Klagenfurt only, the three times weekly service continuing on the rest of the route.

Of a total of 196 scheduled flights 159 were actually flown. Of these 70 covered the whole route and 44 the route Venice—Klagenfurt, and 45 in all were interrupted and either not completed or completed after severe delay. The majority of interruptions were caused by bad weather over the Alps.

The total distance covered was 66,434 km. (40,500 miles) and the total traffic carried was 917 passengers and 7,900 kg. (say 7¾ tons) of goods and mail.

The total services over the whole five lines during 1926 amounted to 523,122 km. (say 335,000 miles) flown, 3,991 passengers, 1,571 kg. (1½ tons) of mail and 40,907 kg. (40 tons) of goods. Nearly 46 per cent. of the available passenger seats were filled on these services and no accident leading to injury to any passenger occurred.

ABOUT LUBRICATION.

Those who are interested in lubrication will also be interested in *Tecalemit News*, which is issued once a month for motorists, aviators and all users of machinery, by Tecalemit Ltd., 10, Little Portland Street, London, W.1. The first issue, just to hand, illustrates very clearly the operation of the Tecalemit grease gun. It also has some very good pictures of the installation of the Whirlwind engine with which Capt. Charles Lindbergh flew the Atlantic. Any readers of The Aeroplane who care to send their name and address to the address given above can have the *Tecalemit News* sent to them regularly post free in future.



AIR SURVEY OF THE ZAMBESI.—Members of the Aircraft Operating Company who are carrying out an air survey of the upper waters of the Zambesi River for the North Rhodesian Government. Front row, from left to right:—Mr. W. D. Corse (photographer), Major R. A. Logan, Major C. K. Cochran-Patrick (Director in charge of expedition), Mr. Roxburgh-Smith (second pilot), Mr. C. J. Bishop (astronomical expert). Back row:—Messrs. A. C. Watts, C. R. Best, S. Millyard (foreman), A. Latimer and O. G. Button.

London to Capetown on a D.H. "Moth."

In achieving this flight, Lieut. R. R. Bentley created a new long-distance record for light aeroplanes—— 8,000 miles on a D.H. "Moth"—— his machine was fitted with a

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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 21; Tuesday, 17; Wednesday, 20; Thursday, 25; Friday, 9; Saturday, 22; Sunday, 15.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 43, passengers 379, freight 14 tons.

AIR UNION:
Paris—London: Machines 50, passengers 223, freight 15 tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 12, passengers 82, freight 3 tons.

SABENA:
Brussels—London: Machines 9, passengers 38.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 13, passengers 45.

COMPAGNIE AERIENNE FRANCAISE:
Machines 0, passengers 0.

PRIVATE:
Machines 2, passengers 2.

Total number of trips by British Machines 45, carrying 379 passengers. Foreign Machines 84, carrying 398 passengers

COMPARATIVE FIGURES.

Week ending Oct. 19.
Machines, 129; Passengers, 779; Crews, 241; Total personnel, 1,020.
Corresponding week, 1926.
Machines, 84; Passengers, 367; Crews, 103; Total personnel, 470.
Corresponding week, 1925:
Machines, 95; Passengers, 369; Crews, 121; Total personnel, 490.
Corresponding week, 1924:
Machines, 111; Passengers, 466; Crews, 137; Total personnel, 603.
Corresponding week, 1923:
Machines, 60; Passengers, 132; Crews, 89; Total personnel, 221.
Corresponding week, 1922:
Machines, 101; Passengers, 305; Crews, 163; Total personnel, 468.
Corresponding week, 1921:
Machines, 80; Passengers, 214; Crews, 109; Total personnel, 323.
Corresponding week, 1920:
Machines, 125; Passengers, 196; Crews, 143; Total personnel, 339.

Croydon Notes.

The first week of October has brought with it the longest spell of settled fine weather yet experienced this year, but with the fine weather has come that bugbear of civil aviation—fog.

It is true that the fogs of last week were not of the most impenetrable kind. It would certainly have been safe to fly through some of those which in fact were not flown through.

But until pilots can feel a more complete confidence in the reliability of the meteorological and wireless services than they do now, fog will continue to interfere with the regularity of Air Transport in weather such as was experienced last week.

It is exceedingly difficult for the average would-be cross-Channel passenger who arrives at Croydon to find a mist giving a visibility of some three to four hundred yards on the ground, through which the sun shines genially to understand quite why flying is not considered safe, and the moral effect on the public of these interruptions is singularly unfortunate.

No one who knows the facts will attempt to lay the blame for these delays on the personnel of either the weather, the wireless or the flying services, but if only for their own sakes it must be hoped that these problems of flying in the mists of a fine Autumn day will very speedily be solved completely. In theory they are already solved, and it requires only perfection of the organisations concerned to avoid some of the delays of last week.

The normal serenity of Croydon was rudely disturbed on Thursday by a violent explosion which shook the whole aerodrome. One of the wing petrol tanks of a Handley Page now undergoing overhaul exploded, injured two men, and blew all the glass out of the roof lights in one of the large sheds on the west side of Plough Lane.

The tank was being cleaned out, and paraffin was—it is said—being used for the purpose. To illumine the interior an electric hand lamp was suspended inside the tank, and either the globe itself broke by bumping against the side, or a spark occurred at a lamp terminal, and ignited an explosive mixture in the tank.

Altogether it is only by the greatest good fortune that much more serious damage did not occur.

This incident goes once more to prove how very difficult it is to make certain that the interior of a fuel or oil tank is perfectly free from inflammable vapours.

There is only one way known to the writer of making sure that such a tank does not contain an explosive mixture, and that is to see that the tank contains so much petrol that the mixture inside is too rich to explode.

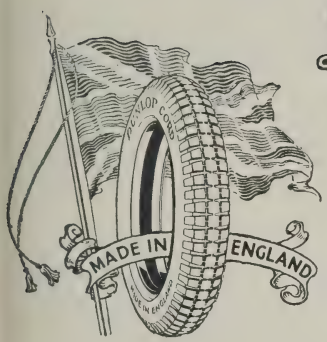
It must be petrol—or some equally volatile fuel,—and there must be so much of it that after ten minutes or so there is still quite a notable quantity of the liquid in the tank. Under these conditions if a light is brought to the filler cap, the petrol vapour will burn as it issues, and will not light back inside.

If an external flame of this kind does occur, it can be put



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out at once by clapping a piece of sacking, or plank, or other convenient stopper, over the hole.

When leaks in a tank have to be soldered in a hurry this is the only safe method to adopt. See there is plenty of petrol inside, take the tank out in the open, and get to work with a soldering iron. Keep the blowlamp—or other heating gear—as far from the tank as possible, and have an old sack handy to smother any flame which does occur.

THE MIDDLE EAST AIR MAIL SERVICE.

Imperial Airways Ltd. announce that a new time table for the Cairo—Basra Air Service will come into operation on Oct. 15.

On and after that date the eastbound service will leave Heliopolis (Cairo) on Thursday morning instead of on Wednesday afternoon. This gives passengers from P. and O. liners more time to reach Cairo than did the previous arrangement.

Similarly the westbound service will leave Baghdad on Sunday morning instead of on Saturday, which allows the English mail to leave Baghdad 24 hours later than under the previous time table.

Services both ways still connect with arriving and departing P. and O. boats at Port Said and with the British India Steam Navigation Company's boats at Basra.

Details of the new time table are attached.

CAIRO—BASRA TIME TABLE.

East Bound.		*West Bound.*	
Cairo, dep. 06.00	Thursday	Basra, dep. 13.30	Saturday
Gaza, arr. 08.15	,,	Baghdad, arr. 17.00	,,
,, dep. 09.00	,,	,, dep. 06.00	Sunday
Rutbah, arr. 14.15	,,	Rutbah, arr. 08.45	,,
,, dep. 15.00	,,	,, dep. 09.30	,,
Baghdad, arr. 17.30	,,	Gaza, arr. 13.30	,,
,, dep. 07.00	Friday	,, dep. 14.15	,,
Basra, arr. 10.00	,,	Cairo, arr. 16.45	,,

Note.—Local time in Egypt, Palestine and Transjordania is 2 hours, and in 'Iraq 3 hours, ahead of Greenwich mean time.

IMPERIAL AIRWAYS WINTER TOURS.

At a meeting of the British Passenger Agents' Association, held in London on Oct. 7, Mr. S. A. Dismore, secretary of Imperial Airways, announced that at the end of January, 1928, Imperial Airways would inaugurate an Aerial Touring service.

The first of these tours would cover about 3,500 miles, visiting France, Spain, Morocco, Algiers, Tunis and Sicily, in 35 days. The total cost per passenger, including hotel accommodation, would be from £350 to £400.

THE JUPITER IN COMMERCIAL AVIATION.

Mention has previously been made in this paper of the wide use of the Jupiter engine for service on air lines all over Europe. Bristol Jupiters are used exclusively by Imperial Airways Ltd. on their Middle East Service, and are also used on the London—Continental routes. The Royal Dutch Air Lines use Jupiters exclusively, and Jupiters are also in service on practically all the routes in France, Italy, etc.

A letter from the Lignes Farman S.G.T.A. dated June 9, 1927, states :—

We are pleased to inform you that the Jupiter engines which we employ on our Berline F.70 machines and on our Goliath twin-engined aircraft are in daily service and are giving entire satisfaction.

Air Union, under date of June 3, 1927, write :—

We have the honour to confirm that the Jupiter engines utilised by our Company are functioning excellently . . . . In point of fact our line France—Tunis has been able to function with perfect regularity since its opening in 1926.

A letter from the Societa Anonima Navigazione Aerea of Genoa, dated June 21, 1927, states :—

We have pleasure in informing you that the Jupiter engines fitted in the Dornier-Wal seaplanes used on the line Genoa—Rome—Naples—Palmero, are giving excellent results and that we are substituting them for other types of engines employed hitherto.

As a demonstration of the reliance which K.L.M. Air Lines are able to place upon their Jupiter-engined machines it may be mentioned that three machines only were considered sufficient for maintaining the service Rotterdam—Malmo, one resting in reserve every third day. Two of these machines were sold some time ago and since that date two aircraft only have maintained the daily service in each direction.

SOME NEW BOOKS.

The following books have just been published and reviews of them will appear in THE AEROPLANE in due course.

"The First Flight Across the Polar Sea." By Roald Amundsen and Lincoln Ellsworth. (21s. net.)

"The Beginnings of Organised Air Power." By J. M. Spaight. (17s. 6d. net.)

"Great Captains Unveiled." By B. H. Liddell Hart. (12s. 6d. net.)

"Navies and Nations." By Hector C. Bywater. (12s. net.)

"India by Air." By Sir Samuel Hoare. (6s. 6d. net.)

Copies may be had from THE AEROPLANE Book Department, 14, Bream's Buildings, E.C.4.

SAND.

The Council of the Iron and Steel Institute has recently awarded the Carnegie Gold Medal for the year 1925 to Mr. A. L. Curtis, Westmoor Laboratory, Chatteris, Cambridgeshire, in recognition of his Research Work on Steel Moulding, Sand, etc.

Mr. Curtis is well known to everybody who has to do with metal work for his production of special sands for all purposes, all the way from casting sands to sand-blasting sands.

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Telephone—Croydon 2046. Telegrams—"Flying Croydon."

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Edited by C. Grey

Vol. XXXIII. No. 16. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"OH! I'LL BE CHEWING SALTED HORSE AND BITING FLINTY BREAD
AND DANCING, WITH THE STARS TO WATCH, UPON THE FO'C'S'LE HEAD."
(John Masefield.)



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In 1921, Mr. Hinkler, piloting the same machine, flew non-stop from Sydney to Bundaberg (Australia) nearly 800 miles.

Still leading in 1927.

ON August 27th, 1927, the most modern English light aeroplane, the Avro "Avian" flew non-stop from London to Riga, Latvia, a distance of over 1,200 miles, at a speed of over 100 miles per hour.



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OCT. 19, 1927.

THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 16.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 8s.; 6 months, 16s.; 12 months 32s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8s. U.S.A., 1 Year, $8.50c.

ON SOME LITTLE MISUNDERSTANDINGS.

Returning from a short holiday full of good intentions and with a desire to promote peace on earth and good will between all men one feels that one's duty is to help in clearing up certain little misunderstandings which have occurred recently. The first is an international matter, the second affects the moral of the Royal Air Force, and the third, although it is primarily personal, is one which affects Civil Aviation quite considerably. All are matters which one believes will interest readers of THE AEROPLANE in all parts of the World, whether they are directly concerned or not with the subject of the argument.

WHO COPIED THE SCHNEIDER MACHINES?

The first subject for discussion concerns the design of the machines which were built for the Schneider Trophy Contest, and arises from an article which appeared in *Aeronautica*, one of the chief Italian aeronautical journals, a few days before the Competition. This article is entitled "Debate on Priority of Design," and seems to indicate that our good friends (and lately our generous hosts) in Italy were before the Contest somewhat offended at certain remarks which had appeared in the English aeronautical papers about the Macchi machines.

The article opens with a quotation from our reverend contemporary *Flight*, which paper, in its issue of Nov. 18, 1926, referring to the Macchi monoplane which won the Schneider Trophy in that year, according to the quotation said :

In connection with this machine a somewhat curious situation has arisen. It is now general knowledge that three distinct types of racing seaplanes are under construction for the British Air Ministry, and that one of these is a Supermarine with the type number S.5. This machine is to be treated as a "secret" for the moment, but a reference to it appears to be called for here.

The S.5 and the Macchi machines are astoundingly alike, except for the fact that whereas the British machine will have a Napier racing engine of the "broad arrow" type, the Macchi has a Fiat Vee type engine. Lest it might be thought, when presently the Supermarine S.5 emerges from its present veil of secrecy, that this machine is a copy of the Macchi (a conclusion that might easily be reached, and with some excuse, as the Macchi appeared first) it may be well to state very briefly what appears to have taken place. Evidently the Macchi designers and Mr. R. J. Mitchell, the chief designer of the Supermarine Aviation Works, took last year's Supermarine S.4 as a good starting point, and following the same lines of reasoning to a logical conclusion, both arrived at very much the same type of machine. These facts should effectively dispose of any subsequent talk of copying.

Aeronautica then quotes THE AEROPLANE of Aug. 10, 1927, in which this paper said :

It is worthy of note that the Supermarine Napier S.4 was the first float monoplane to be used in the Schneider Contest since the very early days of flying, and that after the S.4 was produced and performed so well, this type was taken up by the Italians last year and again this year.

Aeronautica then quotes *Flight* again, as saying in its issue of Aug. 11, 1927 :

Some months ago we referred in these columns to the fact that there was considerable similarity between last year's Macchi racer and the Supermarine S.5, and pointed out at the time that this was in no way to be taken as an indication that Mr. Mitchell, chief designer and engineer of the Supermarine Aviation Works, had copied the Macchi. Apparently, what happened was that the Macchi designer and Mr. Mitchell both took the Supermarine S.4 as a good starting point, and whereas the Macchi was finished in time for, and won, last year's race, the S.5 had but recently been completed. Thus, there can be no possible question of copying.

A further quotation from *Flight* says,

The S.5 is a low-wing twin float mono-seaplane developed from the S.4—to which it is very similar in general appearance—which took part in the 1925 contest and also won the World's speed record for seaplanes; incidentally, the S.4 still holds the British speed record for both land and sea planes.

It may be of interest to note in passing that these machines were the first mono-seaplanes (float) to be used in the Schneider contests since the early days—the Italian Macchi being produced after the S.4 made its debut.

Aeronautica then sets forth the following argument :

From the above articles it is evident that our English friends admit that their S.5 Supermarine which will compete in this year's Schneider Cup is curiously similar to the Macchi 39 designed by Mr. Castoldi, which machine won the Schneider contest last year, and as the M.39 had already appeared the previous year it may be easily maintained that the S.5 is a copy of the M.39.

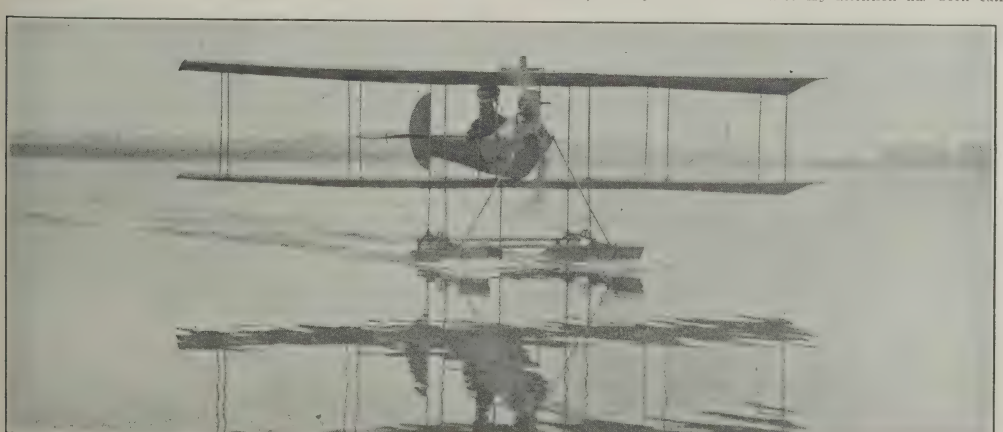
We have noticed that amongst the planes entered for the coming Schneider contest, the Short Bristol Crusader, about which there has been so much talk in the papers, is wonderfully similar to the M.39.

It is a well known fact that in July, 1926, Mr. Short, builder of the Crusader, when on a visit to Macchi's workshops, inspected the M.39 plane in its smallest details; and side and front views of the M.39 have been reproduced by the English technical papers together with plans to scale giving the most important measurements, though the latter were partly wrong as who divulged them did not reproduce them with exactitude.

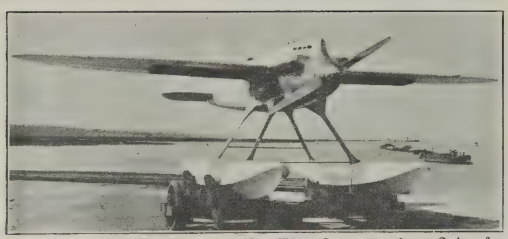
Therefore it is not surprising that our competitors with such valuable information have been able to build planes similar to ours and are to-day armed with our own weapons.

It is a pity that all this controversy has arisen, because it is a little apt to cause ill-feeling. However, as the name of Mr. Oswald Short has been imported into the discussion it is only fair that Mr. Short should have an opportunity of stating his side of the case. Mr. Short has sent to the Editor of *Aeronautica* the following letter :—

Dear Sir,—On my return from Venice my attention has been called



THE PROTOTYPE.—The Avro biplane (35 h.p. Green engine) built for Commander Oliver Schwann, R.N., in 1911,—the first twin-float seaplane,—from which all the Schneider Racers are descended. She is here seen in Cavendish Dock, Barrow-in-Furness.



THE MONOPLANE TYPE.—The Supermarine S.4 of 1925,—a cantilever monoplane.—Note the splayed struts of the undercarriage, and the way the wings grow out of the cylinder blocks, in the manner of the 1924 Ferbois, which still holds the Official Speed Record of 278 m.p.hr.

to an article entitled "Discutiamo di Priorita di Tipi" appearing in your journal of September last.

In the course of this article, there appears the following statement :—

"It is a well-known fact that in July, 1926, Mr. Short, builder of the Crusader, when on a visit to Macchi's workshops, inspected the M.39 plane in its smallest details; and the side and front views of the M.39 have been produced by the English technical papers, together with plans to scale giving the most important measurements, though the latter were partly wrong, as who divulged them did not reproduce them with exactitude."

When I read this article, I did not know whether to be annoyed at having been labelled as a spy, or flattered to be credited with such a retentive mind, that, having viewed the M.39, I should be able to return to England and cause such exact copies of the machine to be made, as not only to equal it in performance but actually to exceed the speed of the original by some 30 or 40 miles an hour.

The accusation, however, that British Aircraft Designers should be dependent upon Mr. Castoldi for ideas is so absurd that one could be excused for totally ignoring the statements which have been made in the article referred to.

On the other hand, however, silence might be taken as an admission of guilt. It is therefore necessary to state a few facts, and I trust, that having published the article in question, both in Italian and English, you will have the kindness to publish this reply in like manner.

The true facts of the case are as follows :—

I visited Italy in 1926 at the invitation of two Italian firms, who were interested in the particular form of All-Metal Aircraft which Short Brothers have produced in England, and who were desirous of entering into business relationships with my firm. In the course of my visit to the Macchi Works I was very openly shown the M.39, that day undergoing its first engine test. My attention was first directed to its floats, and I remarked that, so far as the lines were concerned, I could have sworn that they had been made in our shops at Rochester. One of Mr. Macchi's staff replied, smilingly, "Yes, when Mr. Macchi Junior was in America last year (1925 Schneider Trophy Race) no doubt he kept his eyes wide open."

Mr. Macchi Junior also remarked to me that it was curious that the floats which we had built (All-Metal for the Gloster and Supermarine machines) a year earlier, should have the step in the same position as the floats they were now showing me, and inquired why the Americans placed their step further aft.

In this connection, it must be remembered that, in 1925, Messrs. Macchi entered a flying-boat for the Schneider Trophy Race, and it was after the defeat of their machines, and after Mr. Macchi Junior's visit to America, that they turned their attention to a twin-float seaplane similar to the British and American machines which took part in that race.



THE BIPLANE TYPE.—The Curtiss R3-C2 of 1925.—Note the way in which the undercarriage struts join at the bottom of the fuselage.

After seeing the M.39, the opinion I formed was that Mr. Macchi Junior had followed a very wise course in which he was entirely justified, and which reflected much credit on his judgment.

In 1925, he saw the British and American machines which competed with his own for the Schneider Trophy. He observed the clean lines of the British floats, and the fact that they made little splash and did not porpoise on landing, whereas the American floats did.

He observed the clean lines of the Supermarine monoplane construction, but noticed that the attempt to produce a comparatively thin wing in pure cantilever led to wing trouble. He also observed that the American float strut system was the cleanest, and of obviously sound design. Putting these facts together no doubt led to the design of M.39.

The M.39, as it appeared in 1926, was in fact a combination of all the good points in the British and American machines of 1925, and no one begrudged Messrs. Macchi the credit of their achievement.

To avoid the trouble which the Supermarine monoplane had experienced in 1925, it appeared obvious that the wings should be braced to the floats, and to the top of the fuselage by wires, and this requirement alone, quite apart from the question of a good view out of the machine, would suggest the need of dropping the wing, so as to obtain a reasonable angle on the wing bracing wires.

The writer of your article must give British designers credit of sufficient brains to see facts after their experience in America in 1925, equally with Mr. Macchi and Mr. Castoldi; and in the light of recent events we must admit that the former have gone a great deal farther in wing design and in the reduction of float and fuselage resistance.

Also, after this last race, what becomes of those "most important measurements . . . . which were partly wrong, as who divulged them did not reproduce them with exactitude"?

What are the exact measurements, which, known to a designer, will enable him to win the Schneider Trophy at any time? It is quite obvious that if they exist, Mr. Castoldi did not use them this year.

If we are to enter into an argument as to who originated the Tractor Twin-Float, Low-Braced Wing Monoplane, we shall no doubt ultimately discover that none of the designers of Schneider Trophy machines of this year, or of any other year, are entirely responsible.

It is a type produced from previous examples, by putting together accumulated knowledge and facts, free and open for all to use, and possibly then it is only a passing phase in design.

I am, dear Sir,

Yours very sincerely,

(Signed) O. Short.

A Review of the Situation.

Accusations and counter-accusations of copying are not exactly calculated to promote brotherly love, but in this



THE ORIGINAL TWIN-FLOT SEAPLANE.—Side view of Commander Schwann's Avro, in the "Mayfly's" shed at Barrow-in-Furness, 1911.

"Scrupulous care is the hall-mark of Napier work, and it is the care and craftsmanship in manufacture, the continual striving after perfection, combined with genius of design, which has enabled this British engineering firm to produce such a fine engine."

New York Times
27th Sept. 1927.

The only machines to finish in the 1927 Schneider Cup race—both Supermarine Napier S.5—were fitted with the Napier engine. The winner's speed was 281.669 m.p.h.

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THE MONOPLANE BOAT.—The Macchi 33, of 1925,—the only monoplane flying-boat to compete for the Schneider Trophy.

particular instance they are certainly justified, if only for the sake of clarifying history.

After all, what matters most is the result achieved. And, if by a process of copying and refining we can get faster aeroplanes or more economical aeroplanes or safer aeroplanes or cheaper aeroplanes, international aviation is all the better for it. After all, machinery, like humanity, is constantly in process of evolution, and everybody who copies anybody else and achieves a better result is making for progress.

If one starts with, say, the Supermarine S.5, as being actually the fastest aeroplane in the World to-day, regardless of type or power, and works backwards, one could accuse all kinds of people of copying. Mr. Mitchell was certainly not the inventor of the float seaplane or of the monoplane or of the streamline fuselage. And if one takes the Gloster as being the next fastest machine in the World one can likewise say that Mr. Folland was not the inventor of the biplane or of the sharp leading edge or of any of the other qualities which have made for the success of the Gloster machines.

As a matter of hard fact, Mr. Mitchell's S.4 was, as stated in THE AEROPLANE of Aug. 10 this year, the first float monoplane to be used in the Schneider Contest since the Trophy which was won by the Deperdussin monoplane in 1913.

The statement in *Aeronautica* that the S.4 Supermarine "did not compete for the 1925 Schneider Cup held at Baltimore, as it broke down before the race, presumably on account of the weakness of the wings," does, however, deserve explanation.

First of all, though the S.4 did not compete in the speed contest, it was, as THE AEROPLANE said, used in the contest. It was sent to Baltimore and was brought out for the preliminary tests before the actual speed tests. Unfortunately Mr. Biard, the pilot, who had won the Cup at Naples in 1922, had been very ill, and this was his first flight after his illness. The accepted explanation was that he practically fainted on a turn. There was no question of weakness of the wings, because the machine had previously beaten the British speed record.

If one wants to follow the copying argument backwards to something like a conclusion, one may say quite fairly that the Macchi of 1926 was a 1925 Curtiss without its top plane. And one might equally say that the cantilever wings of the Supermarine S.4 were copied from whichever German machine was first built during the War 1914-18 as a cantilever monoplane.

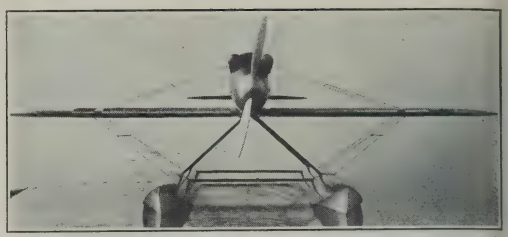
One might also say that the modern streamline float was copied from the Howard Wright floats built by J. S. White and Co., of Cowes, in 1913-14. Those floats had three steps, and Mr. Short has discovered the right way of building that type of float with a single step.

THE TWIN FLOAT PROTOTYPE.

Going still further back, one believes that the twin-float idea itself originated with Commander Oliver Schwann, R.N., now Air Vice-Marshal Sir Oliver Swann, K.C.B., C.B.E., R.A.F., who had such floats fitted to a little Avro biplane which he bought in 1911.

By one of those curious coincidences with which THE AEROPLANE is so often blessed one is able, by courtesy of Sir Oliver Swann, to publish herewith actual photographs of that first twin-float seaplane at Barrow-in-Furness. One believes that it was in fact the first twin-float seaplane ever built. Mr. Glenn Curtiss had flown off and onto water before that date, but it was with a central pontoon from which he ultimately developed his flying-boats. And the Voisin Company and M. Louis Bréguet had also produced water-flying machines, but with central floats.

On the whole, therefore, the less we talk about copying, and the more copying we do, without ill-feeling and without argument, the more progress we shall make. One hopes that this little discussion will clear the air and that there will be no need for coffee for four and pistols for two when next Mr. Oswald Short goes to Italy, or when Mr. Macchi again pays us a visit in this country.—C. G. G.



LAST YEAR'S WINNER.—The Macchi 39, which won in 1926,—practically identical with the 1927 type.

MECHANICS AND PROMOTION.

The next controversy in which THE AEROPLANE has become involved concerns the evergreen question of mechanics in the R.A.F. A week or two ago one who signed himself *Nimbus* objected that aircraft apprentices from Halton who had distinguished themselves in their examinations were passed out into the squadrons as corporals and so were put in command of men, some with a considerable number of years' service and with still more years of experience as mechanics, who had not won promotion of any kind.

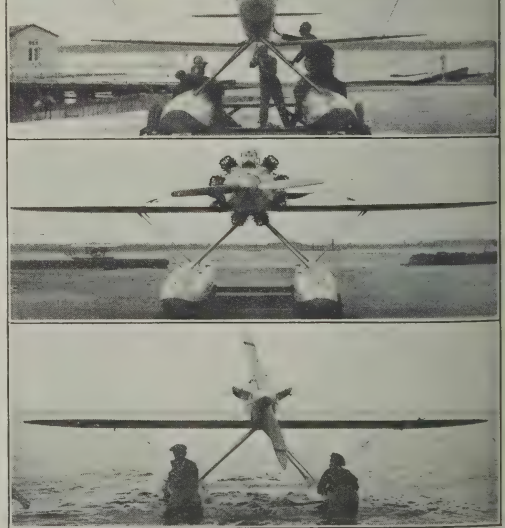
When the article was published one explained that the views therein were not those of THE AEROPLANE, but that one believed in giving everybody a fair show. That article has produced exactly the answer for which one had hoped. It comes from one of the old hands in the R.A.F. who is at once a good soldier and a good mechanic. His reply is so crushing and so comprehensive that one cannot do better than reproduce it as it stands, merely toning down certain expressions of indignation, which, though quite justified, might offend the susceptibilities of some readers of THE AEROPLANE.

Here is the reply :—

TRADESMEN IN THE R.A.F.

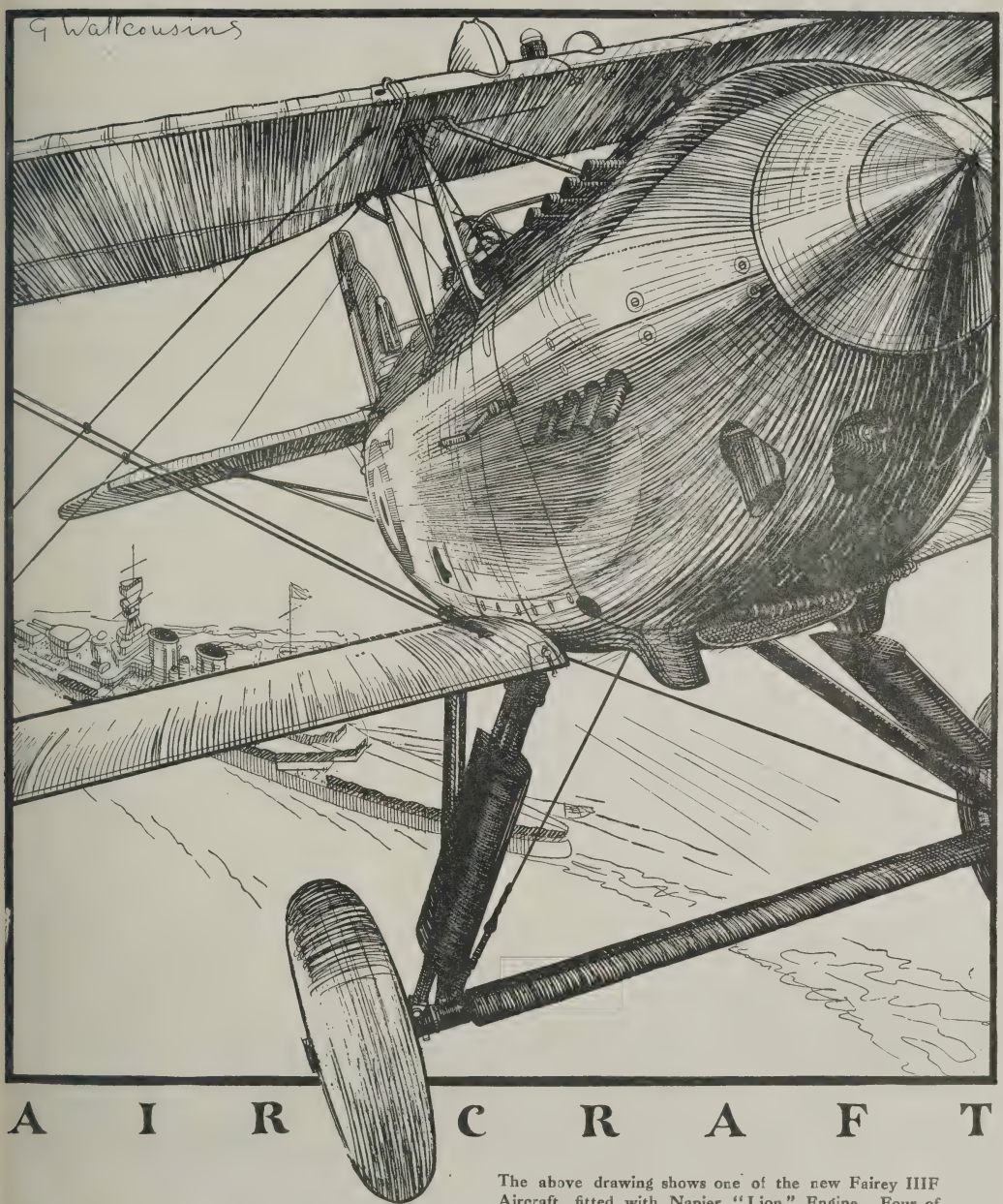
May I respectfully ask why the valuable space of THE AEROPLANE is so gladly given for any dissatisfied ex-member of the R.A.F., to broadcast his grievance? Also although you say the opinions expressed in this article do not necessarily agree with those of THE AEROPLANE, yet you suggest that it is evidently a real grievance. I have been a reader of THE AEROPLANE since its first issue, and I have always formed the opinion that you understood the Service mind, but after reading what is evidently the outpourings of someone who although he has served a few years in the R.A.F. has apparently not been in it long enough to have developed a Service outlook, and you add your blessing by saying it is evidently a real grievance, I think it is about time to cancel my order for THE AEROPLANE.

I am not as a rule given to expressing my opinion until it is asked for, but as you evidently think the opinion of *Nimbus* with a very few years' service to his credit expresses a real grievance in the Royal Air Force, I will try to explain that he does not.



THE BRITISH TRIO.—The Gloster IV, The Crusader, and the Supermarine S.5, of 1927,—for comparison with the Italian and earlier types.

F A I R E Y



A I R C R A F T

The above drawing shows one of the new Fairey IIIF Aircraft, fitted with Napier "Lion" Engine. Four of these machines were used for the recent Royal Air Force trans-African flight under Air-Commodore Samson, C.M.G., D.S.O., A.F.C.

An aggregate of over 45,000 miles was covered during this highly successful operation, which was undertaken by all four machines to a pre-arranged schedule.

THE FAIREY AVIATION COMPANY, LIMITED. :: :: HAYES, MIDDLESEX.

I will begin like *Nimbus* by explaining that I have served in the R.A.F. I have over 19 years' service to my credit, having been in the R.F.C., and R.A.F., since it first formed. I served 5 years in a very good Infantry Regiment previous to joining the R.F.C., also 5½ years apprentice to a technical trade before joining the Infantry. *Nimbus* claims that his opinion is supported by a great number of *tradesmen* in the Service. I claim that my opinion is supported by a great number of *airmen* in the Service.

Nimbus states his opinions are not based upon fiction or hearsay but upon actual experience gained *by close contact with men* for whom one has the highest regard. I state my opinions are based upon experience gained by *being one of the men* who has served in the Royal Air Force since it was a Balloon School.

And here is my opinion for what it is worth :—

Theory :—Success of fighting services depends upon Discipline, Esprit de Corps, Leadership.

Practice :—The R.A.F. is disciplined, has Esprit de Corps, and is exceptionally well led. We have the machines, we have the men, and what is more we can deliver the goods. The R.A.F. is, despite newspaper criticism, the finest Air Force in the World.

The Daily Mail is always wanting to know what is wrong with The Air Force. In my opinion the Air Force suffers from too much criticism by Press people not qualified to criticise, and people like *Nimbus* who can get a scream in The Aeroplane. Leave the Royal Air Force alone and let it develop on the lines laid down by those who are best suited to know what is required. Believe me, our Service Chief, Sir Hugh Trenchard, has the backing of 99 per cent. of the R.A.F., the other 1 per cent. you can have on the Staff of The Aeroplane as technical advisers, or *The Daily Mail* can have them as a free gift, with the best wishes of the R.A.F. Other Ranks, to start a Naval Air Service.

My opinion of the article written by *Nimbus* is as follows :—

1. The flying accidents he refers to are not in 1 per cent. of the cases due to any cause over which the aircraftman has any control or blame, and where blame is due to the aircraftman it is usually due to lack of discipline and not lack of technical knowledge.

2. The statement that 50 per cent. of the aircraftmen are men who have received Secondary School or Grammar School education is not correct by a long way (except in the case of Aircraft Apprentices). We certainly have those men who have served from five to seven years as Apprentices with some of our best known aviation firms, but these men are few and far between. The average fellow does not attend Secondary School or Grammar School until he is 16 or 18 years, then go to be apprenticed for 5 or 7 years with the best aviation firms, and then at the age of about 25 or 26 come and join the R.A.F. Not 1 per cent., let alone 50 per cent., are so qualified on joining. Hence the system of taking boys at 15½ years and combining Secondary School education with Technical training and Service routine, to produce the type of aircraftman required to-day

3. He states that men with say 4 or 6 years' experience in all practical branches of aircraft and aero-engine construction and maintenance find difficulty in working with ex-apprentices promoted to the rank of Corporal. I myself as a platoon commander in Infantry found it difficult working with young Officers posted from Camberley, but my difficulty did not interfere with my loyalty to them, nor has the Army altered its system of training Officers.

What *Nimbus* does not understand is that Officers and N.C.O.s are so promoted to accept responsibility, and that 75 per cent. of their responsibility is administrative, and it is quite within the bounds of possibility that those very capable mechanics with 4 or 6 years' service do not possess the qualities required by those chosen for subordinate leadership.

He talks about practical experience of ex-boys being a minus quality. I maintain it is no more a minus quality than that of any apprentice turned out by the best civilian firms Usually a fellow finishing his time with a firm has to take up a job as an improver before he is accepted in every sense as a journeyman. Also I would point out that from the point of technical knowledge the apprentice receive the same practical examination by the same trade test board as the tradesman who enlists direct from civil life, and is graded AC.2., AC.1., and L-AC., according to his standard of practical knowledge assessed by the board.

The theory or school knowledge is only taken into account when promotion to Cadetship or N.C.O. is considered.

I agree that an ex-boy benefits greatly by two years' practical experience in a Squadron but I am certain he does not forget the theory taught him in the toil of picking up necessary practical knowledge, which enables them to get machines in the air. The knowledge gained in his apprenticeship will be a standard for him to rely upon during the whole of his service.

I wish I had had the opportunity these boys are getting. And so far as money being wasted is concerned, the time and money expended on the training of boys here will repay the Air Force over and over again.

4. Drill,—here Nincompoop or what ever his name is, hits very wide of the mark. I would like him to name any Squadron Leader in the Air Force who, as he terms it, goes in for levelling the square. I have yet to be introduced to any Squadron Leader who gives his men more drill than is necessary to keep his men bodily fit. The Squadron C.O. is the man who has to fly the machine and not the mechanic, so leave it to him. He will see his machines are attended to.

This song and dance about the Royal Ground Force is all a ramp. *Nimbus* tells us it is not to be expected that a man who has devoted the whole of his career to the study of aeronautical engineering is going to make a splendid soldier. Of course nobody expects him to. But if he is trying to make people believe that the average aircraftman is a splendid soldier it only proves that he has never been a soldier. But his statement that a man who is an exceptionally smart soldier invariably is a poor mechanic is all nonsense.

What is desired is that the mechanic should apply with his technical knowledge the intelligence, sense of discipline, esprit de corps and efficiency that the soldier does, and not adopt the mentality of a technical crank, useless for all purposes as an airman.

Also the reference to the argument that men who are the envy of the Guards on parade are the best mechanics, and that in this class of men, i.e., the Guards, all that is required is that they be merely machines who do not move as much as an eyelid unless ordered to do so, while the mechanic needs resourcefulness, intricate workmanship and a knowledge of science, that statement proves he has no knowledge of what is required of the modern Guardsman.

5. The only time he quotes any truth is in the statement that discipline must be maintained, both for the good of the Service and for the benefit of the men themselves. But when he goes on to say that in cases where the technical work or efficiency of the men is sacrificed to the all-predominant rule of men who have never had a day's experience of technical work there is need for drastic steps to be taken in order to obviate a position which can do no definite good to the Royal Air Force as a whole.

My answer to that is, that such cases do not exist to-day in the R.A.F. I do not know of a single instance where the Officer Commanding any Air Force Unit is not a pilot, and has not at some time in his service been a leader of a fighting formation of aeroplanes. That being the case is it likely that he is going to sacrifice the fighting efficiency of his pilots for any such nonsense as this fellow mentions.

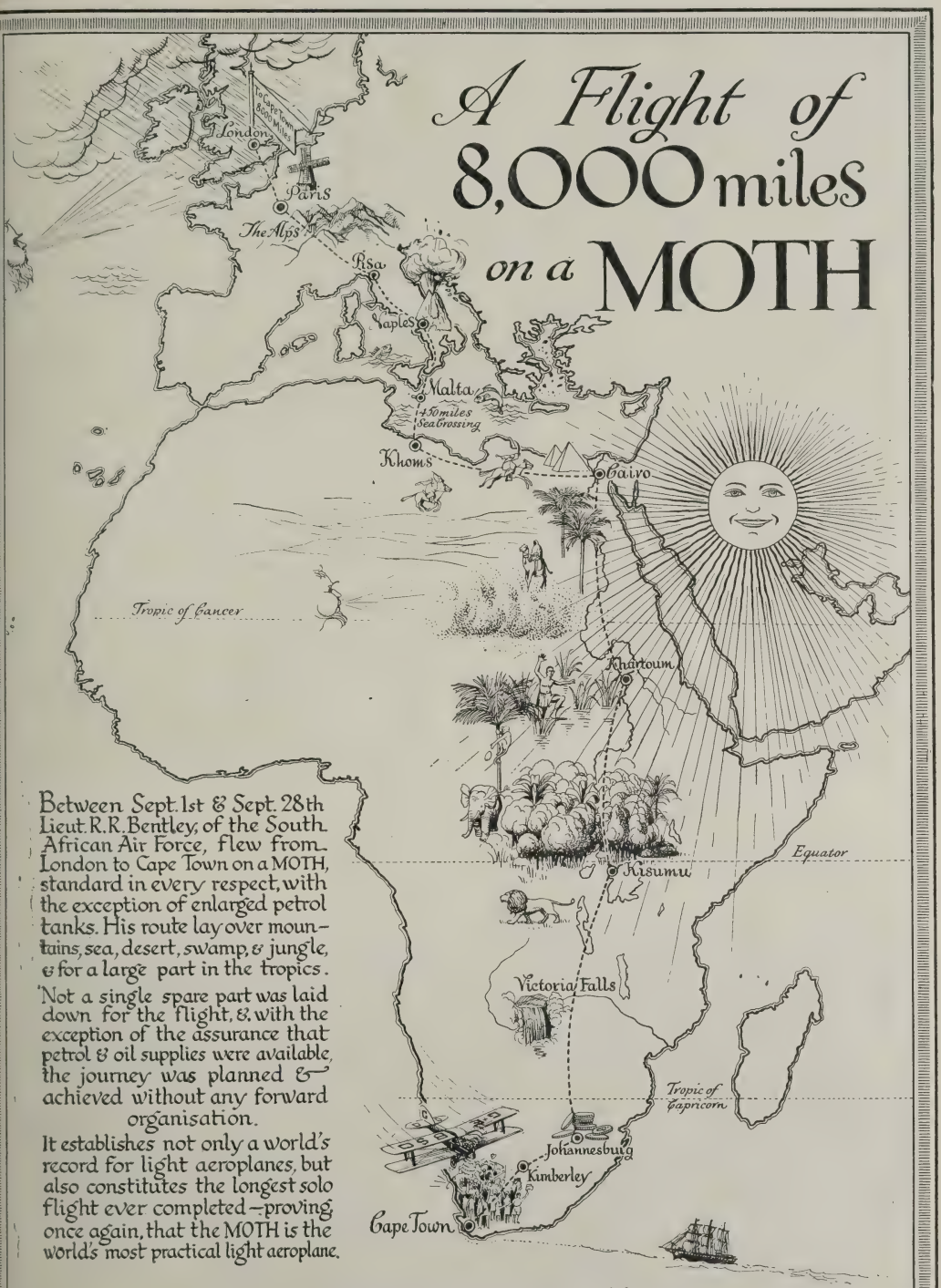
What this class of fellow does not realise is that the R.A.F. is not a circus, but an arm of His Majesty's Fighting Forces.

I could tell you a lot but I have not time, but please don't give space in The Aeroplane for the ravings of men of the mental outlook of *Nimbus*. I pay for this paper and I don't like it, and thousands of other fellows don't. There is plenty to put up with, with the ***** ***, *****, etc., which we only have to pay a penny for. Personally I should not pay a penny for any of them only The Aeroplane does not give any racing tips.

The only comment which one wishes to make is that a grievance may be real without being justified. When one said that space was gladly given to ventilate what was evidently a real grievance one did not suggest for a moment



A NEW SERVICE TYPE.—The Hawker Horsley Torpedo-bomber (650 h.p. Rolls-Royce Condor engine).


A Flight of
8,000 miles
on a MOTH
London
To Cape Town 8000 Miles
Paris
The Alps
Pisa
Naples
Malta
450 miles Sea Crossing
Khoms
Cairo
Tropic of Cancer
Khartoum
Kisumu
Equator
Victoria Falls
Tropic of Capricorn
Johannesburg
Kimberley
Cape Town
Between Sept. 1st & Sept. 28th Lieut. R.R. Bentley, of the South African Air Force, flew from London to Cape Town on a MOTH, standard in every respect, with the exception of enlarged petrol tanks. His route lay over mountains, sea, desert, swamp, & jungle, & for a large part in the tropics.
Not a single spare part was laid down for the flight, & with the exception of the assurance that petrol & oil supplies were available, the journey was planned & achieved without any forward organisation.
It establishes not only a world's record for light aeroplanes, but also constitutes the longest solo flight ever completed—proving once again, that the MOTH is the world's most practical light aeroplane.
The MOTH is designed and manufactured by
THE DE HAVILLAND AIRCRAFT COMPANY LIMITED
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that The Aeroplane is glad to spread dissatisfaction in the R.A.F. The best way of getting rid of real but unjustified grievances is to ventilate them and let somebody who knows better prove to the aggrieved person the error of his ways.

The whole point of the answer to *Nimbus* is that the mechanic with years of experience who has not been promoted even to corporal may be a first-class artificer but quite incapable of taking charge of a job. One has known plenty of admirable mechanics in factories who could never possibly have been made charge-hands at the bench, whereas men who were much inferior to them as mechanics have made admirable charge-hands.

This particular point in human development which marks the difference between the corporal and the aircraftman, or the charge-hand and the bench-hand, marks the dividing line between master and man or employer and employee.

Naturally, a certain proportion of the people who are promoted are unfit for promotion. And some of the people who are not promoted ought to be promoted if those in still higher grades had an opportunity of appreciating their value. But taking it bye-and-large, the man who is fit to take responsibility does get promoted in the end, and the man who is wrongly promoted invariably comes a cropper at some time or another.

There are, of course, all kinds of variants in the composition of the human being. Some men, in commerce as much as in the Services, are quite good as employees without responsibility, and are quite good as their own masters. Perhaps the most difficult man of all to find is he who is particularly suitable for what the writer of this letter very properly calls "subordinate leadership."

It is much more difficult to take responsibility when there is somebody else over you to criticise or condemn your action than it is to take responsibility entirely on your own account. That is why it is always so much easier to be a small shopkeeper in a back street than to be a well-paid manager in a big store. But in a fighting Service the only men who can be promoted are the men who are fit to take these subordinate commands. And the best thing for the others to do is to get out of the Service as soon as they have the chance.—C. G. G.

AN ERROR IN CIVIL AVIATION.

The third controversy arises from a statement made some weeks ago in The Aeroplane to the general effect that the value as a pilot of Mr. W. G. R. Hinchliffe to his employers, Imperial Airways Ltd., had been increased by the fact that in his years of experience he had had one or two crashes. One is now informed on unquestionable authority that throughout his career as a civil pilot Mr. Hinchliffe has never had a crash at all—until his forced landing near Rome.

In a way one is sorry to hear it. One is always rather inclined to the view so ably expressed a week or two ago by Mr. Bowen, late R.F.C., and now Editor of *Aviation*, New York, that a man is not a complete aviator till he has had three good crashes However, probably, like Mr. Bowen, Mr. Hinchliffe had a good few crashes in his early days in the Flying Services, and so learned at the Nation's expense what post-war aviators have to learn at their own expense, if private owners, or at the expense of insurance companies or their employers, if paid pilots—that is, how to crash a machine to a write-off without hurting anybody.

In this connection one is glad to know that the crash with which Mr. Hinchliffe was credited in Italy was grossly exaggerated. Still, it was near enough to being a crash to acquit Mr. Hinchliffe of the reproach of being an incomplete aviator because he has never had an accident.

Mr. Hinchliffe's own account of it and of his Continental flight is distinctly interesting. The projected Atlantic trip with Mr. Levine was abandoned because Mr. Hinchliffe proved it to be mathematically impossible.

The new airscrew which had been fitted to the Chamberlin-Levine machine to replace that which was broken on landing at Kottbus turned out to be unsuitable. When the machine was in the air with full load Mr. Hinchliffe found that the cruising speed had come down to 75 m.p.h. and that the Whirlwind engine was 200 r.p.m. below its normal cruising revolutions, and besides this the petrol consumption had gone up from 9 gallons an hour to 14 gallons. Thus an Atlantic crossing with a total capacity of 460 gallons of petrol, which meant only 32 hours flying, was impossible, except with a strong following wind.

The projected non-stop flight to Karachi had to be abandoned because one petrol pump gave out and so put about half the petrol supply out of action. Consequently the aviators had to land at Vienna—whence they side-tracked to Venice, and ultimately to Rome.

The forced landing near Rome happened because the petrol supply cut out completely just when the machine was passing over a collection of high-tension electric wires. Mr. Hinchliffe, as he says, "with the greatest good luck," but more likely through his own good judgment, cleared the wires and put the machine down into the only possible available piece of ground.

The machine had its full load of petrol, as he intended flying to Bukarest non-stop. And as the landing was across wind the pin holding the left wheel to its axle sheared, and the wheel came off. The machine had almost stopped at the time, so it sat down on the elbow of the undercarriage struts, which gave way. No further damage was done apart from a bent airscrew, and two days would have been enough to repair the damage and change the engine. But unfortunately (from Mr. Hinchliffe's point of view) the extension to his leave which had been granted by Imperial Airways expired, and he had to come home by train to start his regular work again.

One is very glad that Mr. Hinchliffe has now returned to duty with Imperial Airways. It is actually much better for his already high reputation that he should be doing serious work than that he should be putting in his time acting as chauffeur for anybody else, especially a man who is liable to fly off the handle in any direction, judging by the curious dissimilarity between Mr. Levine's published plans and his ultimate actions. One hopes that Mr. Hinchliffe and Imperial Airways will long work together for the common good.

C. G. G.



THE NEW HOME OF THE SUPERMARINE.—The big shop, formerly owned by May, Harden and May, at Hythe, on Southampton Water, where the big Supermarine boats are now built. At the back may be seen one of the Southamptons for the R.A.F. Far East Flight in process of assembly. In this shop during the War 1914-18, one of the two biggest flying-boat hulls in the World was built, but that is now likely to be exceeded.

Blackburn
— IRIS —

THE FLAG-SHIP. The Secretary of State for Air going aboard the BLACKBURN "IRIS" (three Condors) for the cruise to the Baltic.

See "Aeroplane" Aug. 17th 1927.

On August 12th the "IRIS" left England. She has now covered a distance of 5,500 miles which included calls at Oslo, Copenhagen, Gydnia, Danzig, Helsingfors, Stockholm & Helden. When not actually flying the "IRIS" has been moored in harbour. She has encountered heavy seas & proved beyond doubt her reliability & seaworthy qualities.

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ON THE FAR EAST CRUISE.

The start, on Oct. 17, of the Far East Flight, a Royal Air Force Unit consisting of four flying-boats each equipped as an independent unit, on a twelve-months' cruise of British Dominions and Possessions in the Far East marks the beginning of an Imperial Defence policy which will undoubtedly be of vital importance in the future.

With the development of the range and seaworthiness of the flying-boat the Royal Air Force will be called upon to take over to a considerable extent those duties of policing our sea communications which have hitherto devolved on the slower and considerably more expensive craft of the Royal Navy.

In a lecture before the Royal United Service Institution on Jan. 26, 1927, on "The Effect of Air Power on Naval Strategy," Commander A. F. E. Palliser, D.S.C., R.N., said :—

"It is certain that aircraft will be used by all belligerents at sea to attack trade in conjunction with surface vessels, and that aircraft will have a considerable part to play in neutralising the means adopted by an enemy to protect his trade. The greatest effect of aircraft upon seaborne trade is obviously to be looked for in narrow waters through which certain trade routes must pass without possibility of diversion.

"The threat to trade will be particularly felt when the shipping route runs for a considerable distance parallel to an enemy coast well furnished with bases for aircraft, since this condition will allow that enemy to make full and economical use of his aircraft's mobility to bring about surprise attacks. A different form of 'narrow waters' may also arise where an ocean trade route must pass near or through a group of islands, and in certain cases it might even be found that protection of trade can only be ensured by possession of the islands themselves."

This statement, not from an official of the Air Ministry but from a distinguished Naval Officer, provides a pretty conclusive argument in favour of an early and adequate substitution of sea-going units for the present costly and inadequate naval units for the defence of our outlying possessions,—including the vitally important landing stations of the submarine cables and the various wireless short-wave stations which have been superimposed upon the cable system and are extremely vulnerable to enemy air attack.—C. M. MCA.

THE FIRST SOUTH ATLANTIC NON-STOP FLIGHT.

On Oct. 14 at 05.23 hours M. Costes and *Lieut. de Vaisseau* Le Brix, on their Breguet XIX (500 h.p. Hispano-Suiza engine), left St. Louis, Senegal, for Natal, Brazil, on the second stage of their flight to Buenos Aires.

They landed at Natal, Brazil, at midnight on Oct. 15 after having made the first direct flight across the South Atlantic.

The flight of 2,000 miles took them 20 hours.

On Oct. 16 they left Natal for Rio de Janeiro, but they broke their flight at the Latécoère aerodrome at Caravallas, in the south of the State of Bahia.

On Oct. 17 they left Caravallas at 08.10 hours and arrived at Rio de Janiero at 12.40 hours. They were met by a formation of Brazilian aircraft and escorted to the Campo des Affonsos where they were accorded an enthusiastic welcome by great crowds



THE PERSONNEL.—The group in the top picture are the officers of the Far East Flight. From left to right, Flt. Lt. C. C. Wigglesworth, A.F.C., Flt. Lt. D. V. Carnegie, A.F.C., Sq. Ldr. G. E. Livock, D.F.C., Flg. Off. B. Cheeseman, M.B.E., Group Capt. H. M. Cave-Browne-Cave, D.S.O., D.F.C., Flt. Lt. H. G. Sawyer, A.F.C., Flt. Lt. P. E. Maitland, A.F.C., Flg. Off. S. D. Scott, Flg. Off. G. E. Nicholetts, Flg. Off. L. Horwood, M.C., and Flt. Lt. S. T. Freeman, M.B.E.

The group in the lower picture are the non-commissioned officers and men of the Flight standing in front of one of the machines at Felixstowe where the Unit was formed.

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Nearly Four Miles High in a Light Aeroplane using

Wakefield Castrol

Mrs. S. C. Elliott-Lynn, ascending in an Avro "Alpha" engined Avro "Avian" Light Aeroplane from the Woodford aerodrome near Manchester, on Saturday, October 8th, reached a height of approximately 19,200 feet. This (subject to official confirmation) will establish a new world's height Record for 2-seater Light Aeroplanes, b·ating the previous official record of 17,283 feet established by Lady Bailey in a Cirrus engined "Moth" in July.

Naturally, to ensure the maximum performance from their engines, Mrs. Elliott-Lynn and Lady Bailey both used——



——as also did Capt. H. Broad when he established the single-seater Light Aeroplane height and speed Records in a D.H. "Tiger Moth."

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EASTERN EQUIPMENT—Various views of the metal-hulled Supermarine Southampton (two 450 h.p. Napier Lion engines), four of which are forming the equipment of the Far Eastern Cruise. On the conclusion of this cruise, which will include the circumnavigation of Australia, the machines will return to Singapore, where they will be permanently stationed. On the outward journey the flight will be augmented at Singapore by two wooden-hulled Southamptons belonging to the Royal Australian Air Force which will return to Australia with the R.A.F. machines. It will be noted that the various machines are distinguished by bands painted round the hull at the bow and amidships.

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THE ROYAL AIR FORCE.

The London Gazette.

Oct. 11.

General Duties Branch.—Group Capt. C. E. H. Rathborne, D.S.O., is restored to full pay from half-pay (Oct. 11).

The following Flg. Offs. are transferred to the Reserve, Class A:—M. R. Banks (Oct. 16); C. Sagon (Oct. 12). Flg. Off. W. E. Johns is transferred to the Reserve, Class C (Oct. 15); Flg. Off. T. C. Head is placed on the retired list at his own request (Oct. 10). The S.S. comns. of the following Flt. Offs. on probation are terminated on cessation of duty (Oct. 12):—P. B. Manning, H. A. U. Monro.

Flg. Off. Reginald G. M. Hill (Sec. Lt., Lond. Regt., T.A.) is cashiered by sentence of General Court Martial (Aug. 13).

Medical Branch.—Flt. Lt. T. W. Wilson is granted a perm. comn. in this rank (Oct. 12); A. W. Comber is granted a temp. comn. as Flt. Lt., with effect from and with seniority of, Sept. 20.

Reserve of Air Force Officers.—General Duties Branch.—M. V. Delap is granted a comn. in the Special Reserve as a Plt. Off. on probation (Oct. 11); Plt. Off. W. T. W. Ballantyne is promoted to the rank of Flg. Off. (Oct. 6); Flg. Off. M. C. Dudding is transferred from Class C to Class A (Sept. 30). The following Flg. Offs. are transferred from Class A to Class C:—R. P. Whyte (Oct. 8); J. Gallacher (Oct. 9). Flg. Off. E. H. Stuart relinquishes his comn. on completion of service (Sept. 2).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Off.:—No. 602 City of Glasgow (Bombing) Squadron.—A. D. Farquhar (Aug. 17).

Princess Mary's R.A.F. Nursing Service.—Sister Miss M. B. Morrison resigns her appointment (Sept. 25).

Appointments.

Week ending Oct. 17.

General Duties Branch.—Group Captain C. E. H. Rathborne, D.S.O., to Wessex Bombing Area H.Q., Andover, pending posting to R.A.F. Station, Upper Heyford, 11/10.

Wing Commander N. J. Gill, C.B.E., M.C., to R.A.F. Depot, Uxbridge, 14/10.

Flight Lieutenants S. F. Vincent, A.F.C., to R.A.F. Depot, Uxbridge, 2/10. A. D. H. Foster, to R.A.F. Base, Calshot, 2/10. W. K. Mercer, to No. 4 Sqdn., S. Farnborough, 17/10. E. H. Richardson, to Air Ministry (Signals Branch), 19/10. W. Sanderson, A.F.C., to R.A.F. Training Base, Leuchars, 3/10.

Flying Officers V. F. Whatling, D.S.M., to H.Q., Coastal, Area, 3/10. W. A. Shorten, to Aircraft Depot, India, 13/9. G. H. Smith, to No. 25 Sqdn., Hawkinge, 3/10. J. S. Georgeson, to No. 503 Sqdn., Waddington, 3/10. L. Dalton-Morris, to No. 15 Sqdn., Martlesham Heath, 3/10. M. Brunton, to No. 32 Sqdn., Kenley, 19/9. T. H. Carr, to No. 22 Sqdn., Martlesham Heath, 29/9. W. Dickison, D.S.M., to R.A.F. Base, Malta, 1/10. R. C. Wansbrough, to R.A.F. Station, Kenley, 5/10. H. R. F. Baxter, to C.F.S., Wittering, 31/10. H. C. G. Dauncey, to No. 22 Sqdn., Martlesham Heath, 12/10.

Pilot Officers G. H. G. S. Jenkins, to No. 207 Sqdn., Eastchurch, 4/10. H. H. Martin, to No. 13 Sqdn., Andover, 6/10. A. R. Sarel, to School of Naval Co-operation, Lee-on-Solent, 10/10. J. E. A. Binnie, to Record Office, Ruislip, 10/10. H. J. Walker, to No. 503 Sqdn., Waddington, 4/10. M. Griffiths, to No. 13 Sqdn., Andover, 24/9. C. K. Turner-Hughes, to No. 56 Sqdn., Biggin Hill, 24/9. M. H. Clare and A. G. Lester, to No. 5 F.T.S., Sealand, on appointment to S.S. Comns., 3/10. D. K. Hewison, to No. 14 Sqdn., Palestine, 21/9. A. O. Moore, to No. 14 Sqdn., Palestine, 20/9. H. B. Maughan, to R.A.F. Depot, Uxbridge, 23/9.

Medical Branch.—Wing Commander A. S. Glynn, M.B., to H.Q., Egypt, 27/9.

Flying Officer G. W. McAleer, M.B., to No. 1 F.T.S., Netheravon, 10/10.

Stores Branch.—Squadron Leader A. J. Briddon, to No. 10 Group H.Q., Lee-on-Solent, 24/9.

Flying Officer C. W. H. Moller, to Storage Unit, Hawkinge, instead of to R.A.F. Station, Tangmere (Storage Unit), as previously notified, 3/10. Pilot Officer H. M. S. Dawes, to Night Flying Flight, Biggin Hill, 11/10.

Accountant Branch.—Squadron Leader R. Whyte, to Station Accounts Office, Hinaidi, 26/9. Flight Lieutenant J. C. Brice, to Station Accounts Office, Hinaidi, 26/9. Flying Officers W. J. Heneghan and D. J. Sherlock, to Station Accounts Office, Hinaidi, 26/9. Pilot Officer R. S. Sweet, to R.A.F. M.T. Depot, Shrewsbury, 29/8.

Legal Branch.—Squadron Leader E. St. C. Harnett, O.B.E., to H.Q., Egypt, 16/9.

The Far East Cruise.

The Service Flying-Boat Cruise to the Far East left Cattewater, Plymouth, on Oct. 17 at 09.00 hours.

The names of the personnel of the Flight and a rough outline of the cruise appeared in The Aeroplane of Sept. 28.

The Far East Flight was assembled at Felixstowe in May, 1927, and is under the command of Group Captain H. M. Cave-Browne-Cave, D.S.O., D.F.C., who was for several years Deputy Director of Design in the Directorate of Scientific Research at the Air Ministry and is a highly qualified Engineering officer, having been an engineer-officer, R.N., before joining the R.N.A.S. besides having the special "E*" qualification in the Air Force List.

Group Captain Cave-Browne-Cave has a distinguished War record with the R.N.A.S. and R.A.F. and was awarded the D.S.O. in April, 1918, and the D.F.C. in January, 1919.

The second in command is Sq. Ldr. G. E. Livock, D.F.C., who also served with distinction in the R.N.A.S. and R.A.F. during the War and was for some time in command of the Flying-Boat Development Flight at Felixstowe since the War.

The Flight is equipped with six Supermarine-Southampton metal constructed flying-boats with Napier Lion Va engines. Four of these machines are taking part in the cruise and the other two will be sent by sea transport direct to the base at Singapore. The crew of each flying-boat consists of two officers and two other ranks and the equipment inside the hulls has been arranged to provide living accommodation for the crews. Each machine can be operated as a separate unit. Special arrangements have been made in the way of awnings and ventilators for the protection of the crew in the tropics.

The proposed itinerary of the cruise is as follows:—Karachi, Nov. 18; Bombay, January, 1928; Colombo, January, 1928; Calcutta, January—February, 1928; Singapore, February, 1928; Batavia, May, 1928; Freemantle, Adelaide and Melbourne, June, 1928; Sydney, Gladstone and Townsville, August, 1928; Napier, Batavia and Singapore, September, 1928; Hong-Kong, November, 1928, and Singapore, January, 1929.

The total distance will be over 25,000 miles.

An Air Ministry communiqué states that the cruise is being undertaken with the object of gaining experience in the problems involved when flying-boats carry out an extended independent cruise and it is also hoped to gain experience of the problems involved in the re-inforcing of points on the Imperial routes with aircraft drawn from England or other parts of the Empire.

Colonel the Master of Sempill, chairman of the Royal Aeronautical Society and Institution of Aeronautical Engineers, on Saturday sent the following message of good wishes to Group Captain H. M. Cave-Browne-Cave, who is in command of the R.A.F. flying-boat tour to Australia:—

We wish you one and all a brilliantly successful cruise to Australia. We are certain that you will convincingly demonstrate the superiority of British flying-boats, engines, and equipment, and realise the benefits this will bring to the aeronautical community at large. Good luck.—Sempill, Chairman.

The Far East Flight, R.A.F., alighted at the Etang de Hourtin, near Bordeaux, at 14.00 hours on Oct. 17.

The Royal Air Force Memorial Fund.

A Meeting of the Executive Committee of the above Fund was held at the offices, No. 7, Iddlesleigh House, Caxton Street, S.W.1, on Oct. 2.

The usual list of donations and subscriptions which had been received since the last Meeting held on June 15 was laid on the table, and the attention of the Committee was drawn to a notable donation, namely, a sum of Rs. 8118, which had been received from Air Vice-Marshal Sir Geoffrey Salmond, K.C.B., A.O.C., R.A.F., in India. This was the balance of proceeds of an Air Display given at Delhi in February last by units of the R.A.F. in India. It thus realised the sum in English money of £604 13s. 2d., and the Chairman was requested by the Committee to write a special note of thanks to Sir Geoffrey Salmond to thank him and those associated with him for this very handsome donation to the Fund.

The amount of Grants sanctioned by the Grants Sub-Committee and by the Secretary for the period of four months



WATER-POLO CHAMPIONS.—The H.Q. Coastal Area R.A.F. Team which won the R.A.F. Water-Polo Championship for 1927. (Left to right, standing) Sjt. G. Drake, L-AC. H. Harrison, Flt. Lt. H. Norrington (Captain), AC. E. Letchford, Cpl. A. E. Ham. (Seated) Flt. Lt. J. Shakeshaft, Flt. Lt. C. A. Wilcock.

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A ROLLS-ROYCE AERO ENGINE in a Fokker monoplane flew from **HOLLAND** *to the* **EAST INDIES** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

ROLLS-ROYCE AERO ENGINES in Dornier-Wal flying boats flew from **MOROCCO** *to* **SPANISH WEST AFRICA** *in* 1926.

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since June 15, amounted to the very considerable sum of £2,659 6s. 6d. This includes all Grants and reimbursements made to the Officers' Association.

Through the kindness of an officer now serving in the R.A.F., the Committee have been able to make a profit of nearly £29 on the sale of a Book of R.A.F. Songs and Verses, several hundreds of copies of which have been sold in the Air Force and to the Public.

(Several hundreds of these books are still available from the offices of the Fund, at 2s. each post free.)

With regard to the commemoration of Armistice Day, the Committee, as usual, authorised the purchase of a wreath, to be placed at the foot of the R.A.F. War Memorial on the Victoria Embankment on Armistice Day, and they sanctioned at the same time the provision of a wreath to be laid at the foot of the R.A.F. Bay of the Scottish National War Memorial on Edinburgh Rock, which was unveiled by H.R.H. the Prince of Wales on July 14.

R.A.F. SPORTS AND PASTIMES.

Services Rugger.

Rugby Football enthusiasts will have a chance of seeing a first-class game at Twickenham on Nov. 5, when a Combined Services Team will play the New South Wales Team.

There are several reasons why supporters of Service Rugger should not miss this match. In the first place the home team will be drawn from the best players in the three Services. In the second place the proceeds from the sale of tickets will be divided among the Rugby Unions concerned in the match, and it should be remembered that the R.A.F. Rugby Union at any rate has practically depended for its financial existence during the last three years on their share of the proceeds from the Combined Services match against the New Zealand Team.

The match begins at 14.45 hours and tickets, 7s. 6d. and 4s. each, may be had from Flt. Lt. Elmhurst, The Air Ministry, Kingsway, W.C.2.

The R.A.F. Football Association.

Fixtures for the season 1927-1928 :—

Oct. 26, R.A.F.F.A. Junior Cup, 1st Round.

Nov. 2, R.A.F.F.A. Open Cup, 1st Round. Nov. 16, R.A.F.F.A. Junior Cup, 2nd Round. Nov. 19, R.A.F. Officers XI v. Lancing Old Boys (Uxbridge). Nov. 26, R.A.F. v. Cambridge University (Cambridge). Nov. 30, R.A.F.F.A. Open Cup, 2nd Round.

Dec. 3, R.A.F. Officers' XI v. London University (Uxbridge). Dec. 7, R.A.F. v. Oxford University (Oxford). Dec. 14, R.A.F. Junior Cup, 3rd Round. Dec. 17, R.A.F. Officers' XI v. Army Crusaders (Uxbridge).

Jan. 7, R.A.F. v. Middlesex County (Uxbridge). Jan. 18, R.A.F.F.A. Open Cup, 3rd Round. Jan. 25, R.A.F. v. Football Association (Uxbridge). Jan. 25, R.A.F.F.A. Junior Cup, Semi-finals.

Feb. 4, R.A.F. v. Corinthians (Crystal Palace). Feb. 8, R.A.F.F.A. Open Cup, Semi-finals. Feb. 18, R.A.F.F.A. Junior Cup, Final (Uxbridge). Feb. 22, R.A.F. v. Civil Service (Chiswick).

Mar. 3, R.A.F.F.A. Open Cup, Final (Uxbridge). Mar. 10, R.A.F. v. Spartan League (Uxbridge). Mar. 21, R.A.F. v. Surrey (Kingston). Mar. 28, R.A.F. v. Army (Uxbridge).

Apr. 11, R.A.F. v. Royal Navy (Portsmouth).

THE SCHNEIDER TROPHY BANQUET.

The Banquet given by the Royal Aero Club, the Royal Aeronautical Society, the Air League of the British Empire and the Society of British Aircraft Constructors to celebrate the British Victory in the Schneider Trophy Race was held at the Savoy Hotel on Oct. 11. Brigadier-General the Lord Thomson, P.C., C.B.E., D.S.O., Chairman of the Royal Aero Club, was in the Chair.

Among the Guests were Marshal of the Royal Air Force Sir Hugh Trenchard, Chief of the Air Staff, and Lady Trenchard, Admiral of the Fleet Sir Charles Madden, First Sea Lord, Count Rogeri di Vinnanova, Councillor of Embassy of the Italian Embassy, General A. Guidoni, Air Attaché to the Italian Embassy, Mr. R. Atherton of the American Embassy, Sir Samuel Hoare, Secretary of State for Air, and the Lady Maud Hoare, Air Marshal Sir John Salmond, Air Vice-Marshal Sir John and Lady Higgins, Air Vice-Marshal F. R. Scarlett and the British Team (Sq. Ldr. L. H. Slatter, Flt. Lts. S. M. Kinkead, S. N. Webster and O. E. Worsley and Flg. Offs. T. H. Moon and H. M. Schofield), Commander and Mrs. Bird, Mr. and Mrs. H. T. Vane, Sir Charles Wakefield, Mr. Howard Pixton, the first British winner of the Schneider Trophy (1914), and Mr. Lester Gardner.

After the Loyal Toasts had been honoured, the Chairman read telegrams regretting their inability to attend from His Grace the Duke of Sutherland and Sir Philip Foster, Chairman of the Air League of the British Empire.

Proposing the toast of "The Winners of the Schneider Trophy," The Lord Thomson said that it had been reported that Flt. Lt. Webster on getting out of his machine after the race said "Now let us celebrate." This was exactly what was being done. The victory had been a triumph of manufacture, skill and grit. Great Britain had won the Schneider Trophy on two previous occasions, in 1914 when the pilot was Mr. Howard Pixton, who was with them to-night, at an air speed of 86 m.p.h., and in 1922 by Mr. H. C. Biard, who was unavoidably prevented from coming, at a speed of 145 m.p.h. He could not understand why the Trophy was called a Cup. Anyone who had seen the Trophy with its lightly clad form kissing the waves must have wondered how anybody could get a drink out of it.

Even M. Jacques Schneider himself could not have possibly foreseen the prodigious development which had been reached since the first 40 m.p.h. race for his Trophy. Governments had taken an official interest in the contest. The toast of the Winners of the Trophy this year included a multitude of factors in the success. The Air Ministry had been indispensable. Never had a Government Department played up so nobly. Outside their official capacity the Nation owed a debt of gratitude to Sir Samuel Hoare, Marshal of the Royal Air Force Sir Hugh Trenchard, Air Vice-Marshal Higgins and the designers and experts at Farnborough. The Admiralty represented by the First Sea Lord had given practical assistance by way of transport and the moral support of the Grand Fleet in the Mediterranean. There were also the designers and manufacturers of the engine and the members of the Racing Committee of the Royal Aero Club. It was one of the great regrets of his life that he had not been present at the Lido to see the Contest, one of those sins of omission which would lie heavily on his spirit. To the members of the winning Team he would say, "We are very grateful to you and we are very proud of you. You have done all that was expected of you and more than that, and a great deal is expected by the British Nation of all members of the Royal Air Force."

Supporting the toast, Marshal of the Royal Air Force Sir Hugh Trenchard said that he had asked his Staff of old Army officers what he had been ordered to say by the Daily Press. Most of those present must have seen a poster that afternoon which read "Lady's Secret Channel Swim." How the Schneider Team must have envied that lady! Speaking as far as he could on behalf of all ranks of the Royal Air Force and without wanting to detract from those whom they had all come to honour, the Schneider Trophy Team was only typical of the young officer of the R.A.F. He assured his audience that the R.A.F. had many others who could as worthily have upheld the honour of the Country. It was only possible for the R.A.F. to carry out this and other flights provided they had a sound system of organisation, administration, and training and that money was spent on it; and it was not possible to carry out these flights without sufficient organisation, training and money. On behalf of the R.A.F. and the Schneider Trophy Team he would like to thank the Admiralty, the Royal Navy and the Capain of the *Eagle* for all their help that had made for the smooth running of the Team. To Air Vice-Marshal Scarlett and the Team, on behalf of the R.A.F., he could only say "We congratulate you for what we all expected of you, you are a credit to the R.A.F." To the designers and their staffs of the machine and engine, they offered congratulations on the progress in the machine since Great Britain last won the Trophy.

Air Vice-Marshal F. R. Scarlett, C.B., D.S.O., R.A.F., replying for the Winners of the Schneider Trophy, said that the R.A.F. Contingent realised how fortunate they had been in being chosen to represent

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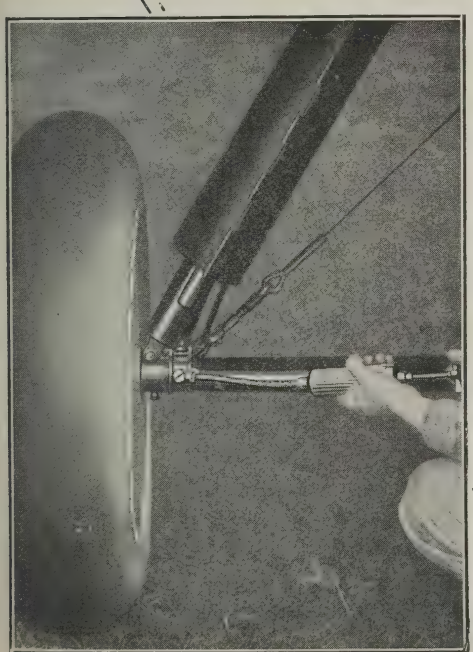
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the Country in the Schneider Trophy Contest. They were proud of the trust placed in them by the Air Council. He paid a tribute to the Contractors who had worked so unselfishly for the object in view; on behalf of the Team he hoped their Trade would prosper. The N.C.Os and men who had worked side by side with the Contractors' men at Venice were samples of what the Service could produce. He asked aircraft manufacturers to turn a kindly eye on these men when they were seeking employment in civil life and assured them that they would not regret it. He wished to place on record the Team's appreciation of the courtesy, sporting spirit and hospitality of their gallant opponents.

Flight Lieutenant S. N. Webster, A.F.C., R.A.F., thanked everybody very much on behalf of himself and the pilots for the toast and said that he had been very much envied when he had been selected to fly one of the machines but if anyone envied him now——. He was thankful to have been given a position in the team and thankful to have been given the fastest machine in the race. It was not a matter of individual glory; they were all out for a common cause and they all did their best. He was very glad he had justified the trust put in him when he was given the fastest machine. Sq. Ldr. Slatter had had the most difficult job ever given to an R.A.F. officer and had surmounted innumerable obstacles. The mechanics had been wonderful. They had worked under great difficulties and with civilians and they had done everything that had been asked of them and had put up a wonderful show.

Colonel The Master of Sempill, Chairman of the Royal Aeronautical Society, proposing the toast of "The Guests," said that the Council of the Royal Aeronautical Society and the Institution of Aeronautical Engineers at their first meeting as a joint concern had conferred the silver medal of the Society on the technicians of the Supermarine Company, the Napier Company and the Fairey Company for their share in the victory. It was impossible to honour individually all concerned but he named Mr. Mitchell of the Supermarine Company, Mr. Wilkinson of the Napier Company, and Mr. Ralli of the Fairey Company.

Admiral of the Fleet Sir Charles Madden, replying for the Guests, said that he felt the atmosphere was distinctly that of the Air. The Navy's message to the Schneider Trophy Team was that they knew when the R.A.F. put up a team it would be a worthy one. His brother officers in the R.N. were proud of the R.A.F. team. The seaplane was of great importance to the Navy and the Navy wanted seaplanes so hardy and seaworthy that they could be dropped over the side like lifebuoys.

Count Rogeri di Vinnanova, of the Italian Embassy, said that Italy wholeheartedly joined in congratulating the British Schneider Team on their well-deserved triumph. The Italian Nation had been very happy to have the Team amongst them and would be even happier to welcome them back again as soon as possible.

Sir Samuel Hoare, Secretary of State for Air, proposing the toast of the Chairman, said that although he and Lord Thomson were in opposite political camps they both thought alike where the future of flying was concerned. He could not help remarking on the failure of the red machines.

The Lord Thomson, replying, said that when the day of reckoning came and the Conservative Party sat down by the Waters of Westminster the Labour Party would be able to say, "For what you have done for the Air Force may some of your sins be forgiven you."

By the time the talking was over the night was far spent, but what was left of it and the early part of the next morning were even better spent in terpsichorean festivity.—C. M. Mca.

A WELL-DESERVED AWARD.

As was announced by Col. the Master of Sempill at the Royal Aero Club's Banquet to celebrate the British Victory in the Race for the Schneider Trophy, The Council of the Royal Aeronautical Society (with which is now incorporated the Institution of Aeronautical Engineers) have awarded the Silver Medal of The Royal Aeronautical Society to Mr. R. J. Mitchell, the designer of the winning Supermarine S.5, to Mr. Wilkinson, who was responsible for the development of the racing Napier engine, and to Mr. P. A. Ralli (of the Fairey Aviation Co. Ltd.), the designer of the very remarkable airscrew which contributed so largely to the speed attained by the Supermarine machine.

It is worth noting that these awards were made at the first meeting of the amalgamated Council, that this is the first time the Silver Medal of the Society has been awarded since it was conferred on Mr. S. F. Cody in 1911, and further that it is the first time that the Royal Aeronautical Society has recognised the work of the designers who have made a particular success possible as distinct from the individual who has achieved that success.

These facts may reasonably be taken to show that the amalgamated body has settled down to work rapidly and smoothly, and that the policy of that body will continue to be dictated by an equal consideration of the value of practical development and of scientific research.

A MOTH IN NEW GUINEA.

The Morobe Trading Co. of Rabaul, New Guinea, has acquired a D.H. Moth which will be used to carry general stores from the company's base at Lae to a trading station at Edie Creek. Here it will link up with the aerial service to the goldfields operated by a company known as Guinea Gold (N.L.).

AMSTERDAM—BATAVIA IN 10 DAYS.

On Oct. 1, a Fokker F.VII-3m. (three 185 h.p. Armstrong-Siddeley Lynx engines) left Amsterdam with a load of mail for Batavia. It was piloted by Lieut. Koppen, Dutch Army Air Service, and Mr. Fryns, a K.L.M. pilot, who were accompanied by Mr. Elleman as mechanic.

The machine arrived at Batavia on Oct. 10, having covered 8,750 miles in 75½ flying hours, spread over 9 days.

The following is the itinerary of the flight:—Oct. 1, Amsterdam—Sona (1,260 miles in 11 hours); Oct. 2, Sofia—Aleppo (980 miles in 8 hours); Oct. 3, Aleppo—Bushire (1,135 miles in 8 hours); Oct. 4, Bushire—Karachi (1,150 miles in 10 hours); Oct. 5, Karachi—Allahabad (950 miles in 8 hours). Oct. 7, Allahabad—Calcutta (490 miles in 5½ hours); Oct. 8, Calcutta—Bangkok (1,160 miles in 10 hours); Oct. 9, Bangkok—Singapore (1,000 miles in 9½ hours); Oct. 10, Singapore—Batavia (625 miles in 5½ hours).

Of all the big flights made over this now well-travelled airway, this flight is the most noteworthy. In the first place its definite object was to demonstrate the possibility of opening up a mail route to the Dutch East Indies.

Lieut. Koppen will stay in Batavia for five days in order to allow the outward mail to be delivered and dealt with and will then return to Holland with the return mail. He hopes to complete the return journey in 9 days, so that an answer to a letter to Batavia may be in the hands of the sender within 25 days. Mail steamers take 33 days for a single journey.

The Fokker F.VII-3m. used was a standard passenger machine fitted with four extra tanks to give an effective range of 13 hours.

It has long been considered by many that the air mail route to the East has been neglected. While it must not be assumed that the British authorities have ignored the possibilities of such a service it has certainly been left to Holland to demonstrate in a practical manner that such a service is feasible.

In this flight Karachi was reached four days after leaving Amsterdam, a distance of 4,525 miles being covered in 37 flying hours. In previous flights, some ulterior object has tended to distract attention from mere carriage of mail matter with the result that the significance of this flight is made all the more prominent.

This great flight is worthy of the descendants of those brave Dutch mariners who led the World to the distant seas. As our nearest racial relatives on the Continent of Europe their success gives us cause for sincere rejoicing.

From the purely British point of view this flight is especially noteworthy because it is the first big flight in which British engines of medium power, that is to say in the class which American engines have hitherto had to themselves, have been used. The Armstrong-Siddeley Lynx has now proved itself worthy to rank with the history-making motors of the World.

SIR ALAN COBHAM'S NEW VENTURE.

Thanks to the munificence of Sir Charles Wakefield, Sir Alan Cobham, K.B.E., A.F.C., will shortly set out on an aerial survey expedition through and round Africa and as a compliment to its generous sponsor the flight will be known as "The Sir Charles Wakefield Flight of Survey round Africa."

By arrangement with the Air Ministry Sir Alan has acquired the loan of the Short Singapore all-metal flying-boat (two 650 h.p. Rolls-Royce Condor engines).

The expedition will leave England about the middle of November and Sir Alan hopes to return to England by the end of February. The route will be by way of the Mediterranean, Egypt, up the Nile and thence through the Great Lakes to Beira.

Thence the East Coast will be followed to Durban and Cape Town. The return journey will be round the West Coast.

Frequent stops will be made to investigate flying conditions and the commercial possibilities of air lines, particularly through the centre of Africa and along the West Coast.

Alan Cobham Aviation Ltd. is working in close co-operation with North Sea Aerial and General Transport Ltd., the operators of the Khartum—Kisumu air route, the first link of the Cairo—Cape Town air line, and it is the object of Alan Cobham Aviation Ltd. to establish a service from Kisumu southwards towards the Cape.

THE UNLUCKY "PELICAN."

On Oct. 17 the D.H.50 "Pelican" of the North Sea Aerial and General Transport, Ltd., which is operating the Khartum—Kisumu air service, crashed at Kisumu during a test flight.

All will sympathise heartily with the firm and with Capt. T. A. Gladstone, the organiser of the experimental service, in this third stroke of ill fortune. Still, "the third time is the charm," and after this all should be plain sailing.

No information is available at the moment as to who was piloting the machine at the time of the accident, nor as to what happened.

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SOME RECENT BOOKS.

The "City of Delhi's" Maiden Voyage.

[" India by Air." By the Rt. Hon. Sir Samuel Hoare, Bt., G.B.E., C.M.G., with an introduction by the Lady Maud Hoare, D.B.E. 156 pages, 35 illustrations and a map of the route. Longmans, Green and Co., Ltd. 6s. 6d. net. Supplied by The Aeroplane Book Dept., 14, Bream's Bldgs., E.C.4.]

Sir Samuel Hoare is a confirmed advocate of air travel. Not content with preaching the gospel of aviation from Chelsea to Calcutta, he has found time to write a book, which can be read and enjoyed by every old lady who belongs to a circulating library, and will do a good deal to drive home the safety and comfort of air travel to that enormous population of this country who call all single-seaters (including Service Fighters) " Baby Moths," and all multiple-engined machines (including all the big civil machines) " Giant Bombers."

In this noble work he has been ably assisted by the Lady Maud Hoare, whose calm, unruffled attitude during this flight of over six thousand miles is such an excellent example to future passengers on this route. The Lady Maud's preface to the book is an example of essentially modern wit and humour which might serve as a model to professional writers.

In addition to his description of the flight from London to Delhi, Sir Samuel Hoare has given a short account of his tour of the R.A.F. Units on the North-West Frontier, where he covered a distance of 2,059 miles in less than 24 hours' flying time.

Describing the Frontier, Sir Samuel Hoare writes :—" It is a worthy boundary of a Great Empire. You can judge a country by its frontiers. A great country should no more have its neighbours pushing into it than should a great house have other houses looking into its front windows."

Sir Samuel Hoare has added considerably to the interest of this book by his historical allusions to the places over which they passed. On the other hand, his frequent golfing and tennis similes become rather tiresome.

The appendices include a description of the machine, an English translation of the letters in five languages, carried for use in emergency, and complete logs of the *City of Delhi* and of the R.A.F. Frontier Flight.

The worst fault that one can find with the book is that it is too short.—C. M. MCA.

The Two of Us.

[" We—Pilot and Plane." By Charles A. Lindbergh, with an Appendix, " What the World Thought of Lindbergh," by Fitzhugh Green. 235 pages, 29 illustrations. G. P. Putnam's Sons, 7s. 6d. net. Supplied by The Aeroplane Book Dept., 14, Bream's Buildings, E.C.4.]

Charles Lindbergh's own story of his life and flight across the Atlantic will be particularly welcome to those people whose internal economy is too sensitive to allow them to read the nauseating newspaper accounts of the Hero's life and achievements which appeared last May on both sides of the Atlantic. " We—Pilot and Plane " is just what anyone who ever met Charles Lindbergh would have expected him to write.

It is a modest, straightforward and distinctly humorous account of those events of his life which led up to his becoming the first aviator to cross the Atlantic single-handed and single-engined. The book proves that the element of luck was the smallest thing in his success.

He is a good sportsman. In the beginning of the book he says, " I had been raised with a gun," and later he describes an arduous and dangerous trip in a leaking boat down the Yellowstone River. And throughout his " Barnstorming " days, when he carried passengers, walked wings and dropped in parachutes to make enough money to keep a disreputable crock of an aeroplane in the air, he shows a spirit of indomitable pluck and perseverance.

He is also a born engineer, and writes, " My chief interest in school lay along mechanical and scientific lines. Consequently, after graduating from the Little Falls High School, I decided to take a course in Mechanical Engineering, and two years later entered the College of Engineering of the University of Wisconsin at Madison." This knowledge was to be very useful to him in the future.

His barnstorming adventures take up most of the first four chapters of the book and are full of amusing incidents. He slept in a hammock slung under the wing of his machine and did all his own repair jobs. After some months of this he wrote that he wanted to fly " planes that would roar up into the sky when they were pointed in that direction, instead of having to be wished up over low trees at the end of a landing field."

After repairing one wreck he tested the machine with a parachute borrowed from an officer at the Naval Air Station at Pensacola, and wrote, " That was the first service type of 'chute I had ever worn, and I experienced the unique feeling of not caring particularly whether the ship held together during the tests or not."

In March, 1924, he became a Flying Cadet, and was trained at Brooks Field. The " Wash-out " system at Brooks Field whereby in a class of 104 Cadets only 18 received their wings is fully described. The system of having all examinations on Saturday mornings so that the Cadets would not spend their week-ends studying, and so affect their flying, seems to be a good one.

Charles Lindbergh is a parachute enthusiast as might be expected when one considers that up to the present time he has qualified four times for membership of the Caterpillar Club. In this connection he wrote : " There is a saying in the Service about the parachute : ' If you need it and haven't got it you'll never need it again! ' That just about sums up its value to aviation."

From Brooks Field he went to Kelly Field, and there qualified for his wings.

In the Summer of 1925 he joined the Robertson Aircraft Corporation and became an air mail pilot when they got the contract.

In November, 1925, he enlisted in the 110th Observation Squadron of the National Guard and was commissioned soon after. The National Guard seems to be a close relative to the British Territorial Force. Lindbergh wrote : " Appropriations were not large, and often insufficient, but, although at times it required part of the squadron's pay checks, the ships were kept in the air."

He describes the building of *The Spirit of St. Louis* and his flight in it across the Atlantic in a plain, unvarnished tale, which makes it all the more interesting because of its restraint.

In an introductory note to Fitzhugh Green's Appendix he says : " I have asked Fitzhugh Green to write a brief account of my various receptions, not only because I think he has caught the spirit of what I have tried to do for aviation, but because I trust his judgment in selection of material."

It is a thoroughly good book.—C. M. MCA.

Aerodynamics for the Designer.

[" Airplane Design : Aerodynamics." By Edward P. Warner, A.B., M.S. London : McGraw-Hill Publishing Co. Ltd. Price 37s. 6d. net. 398 pages. 328 figures. Supplied by The Aeroplane Book Dept., 14, Bream's Buildings, E.C.4.]

Since Prof. Leonard Bairstow published towards the end of the War his well-known book on Applied Aerodynamics there has been no attempt to produce in the English language a comprehensive text book on this subject in a form which should be directly useful to the aeroplane designer.

Prof. Bairstow's book is still of the very greatest value to the aeronautical engineer, but in the years which have intervened since it appeared knowledge of aerodynamic theory and practice has progressed very considerably.

The time is therefore ripe for the appearance of a new work on this subject, and it is probably all to the good that this new book should have been produced by so competent and so definitely American an authority as Mr. E. P. Warner, who for many years acted as Professor of Aeronautical Engineering at the Massachusetts Institute of Technology, and who since July, 1926, has been Assistant Secretary of the (United States) Navy for Aeronautics.

Roughly speaking, Mr. Warner's new book covers very much the same ground as Bairstow's Applied Aerodynamics, but it covers it a little more definitely for the purposes of the aeroplane designer, and scarcely at all for the student of aerodynamics *per se*.

The treatment of aerodynamic problems has been made as little mathematical as it can be, many of the results of modern aeronautical research work have been dealt with in a very summary fashion, but for the purpose for which the book is written this is no defect.

The book is very clearly printed and is copiously illustrated with diagrams, and may be recommended as a reliable work of both instruction and reference.

This is to be the first volume of a comprehensive series dealing with the whole art of Aeroplane Design. If the succeeding volumes deal as comprehensively with the rest of this subject as this volume does with Aerodynamics the series should be of very great value indeed.—W. H. S.

Air Facts and Idle Dreams.

[" Air Facts and Problems." By Brig.-Gen. Lord Thomson, C.B.E., D.S.O., Secretary of State for Air, 1924. 255 pages with Appendix. John Murray. 6s. net. Supplied by The Aeroplane Book Dept., 14, Bream's Buildings, E.C.4.]

Lord Thomson's book is based on a series of articles written by him for the British and American Press. There is much in it that is of interest, but very little that is new. The consistent mis-spelling of the words aeroplane and aerodrome turning them into airplane and airdrome is irritating but

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A great performance put up by Lieut. A. Koppens, of the Dutch Air Mail Service. Left Amsterdam on Octo er 1st and reached Batavia on October 10th—to pioneer the way for a monthly mail service between Holland and the Dutch East Indies—the longest Air Mail Route in the World.

Lieut. Koppens—who was flying a Fokker monoplane with three Armstrong-Siddeley "Lynx" engines — used Shell Aviation Spirit (unmixed with "dope" or any other fuel) and Shell Oil throughout.

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otherwise the book deserves a larger circulation than it will get at the published price of 6s. At 2s. 6d. it would be a valuable contribution to public education.

The book is a strange mixture of the practical outlook of a soldier and the strange idealism of an honest Socialist. In the chapter on Air Warfare he describes the various interested or humanitarian efforts which have been made to render warfare more civilised, and says :—" These instances are typical of the efforts made by well-intentioned people who, because they considered war inevitable, or even beneficial—such people did and do exist—tried to subordinate it to a legal system, to limit its scope, to prevent its worst atrocities, in short to civilise it, and bring it up to date. They have failed to achieve their purposes, and, unconsciously, have glossed over, and therefore helped, to perpetuate an international crime."

At the end of this chapter he says :—" Instead of trying to control, restrain, mitigate, or civilise modern warfare, the more logical course is to outlaw war itself and make aggression illegal. This is admittedly a council of perfection; but it does not compromise with evil, and offers a real solution towards which humanity can strive."

Another chapter of the book contains a clear and concise justification for the existence of the Royal Air Force. His reasoning is admirably convincing to the general public, although the supporters of the separate-services reactionary agitation might find flaws in his arguments. He quotes from an article in *The Canadian Defence Quarterly*, in which the writer says " Wars will be won by a comparatively slow but irresistible force which is able to move from one strategic position to another." Lord Thomson adds that most students of the last war will admit that the movements from one strategic position to another, by our land and sea forces, were inevitably tentative, slow, and accompanied by appalling losses.

Lord Thomson lays special stress on the inter-dependence of military and civil aviation and as an example of this points to Germany's progress towards a flourishing aircraft industry in spite of the restrictions of the " Nine Rules." Obviously Air Defence requires an aircraft industry, and an industry which depends to an undue extent on orders placed by Government Departments is essentially unsound. Germany's ultimate air power will therefore be better founded than that of countries which have no limitations.

Lord Thomson's chapters on the training and education of the personnel of the R.A.F. and the employment of the Force in mandated territories contain nothing new to readers of THE AEROPLANE but for the ordinary public the information therein is concise, accurate and interesting.

Lord Thomson is an ardent supporter of the airship cause and considers that when they are able to receive as well as launch fighting and bombing aeroplanes, their offensive strength combined with their range and mobility should make them effective substitutes for cruisers. He admits, however, that trying them out involves a costly and unremunerative period.

He impresses the need for Dominion Air Forces for local defence against minor air raids and for guarding the Empire air routes when they are established. He considers that every part of the Empire should contribute to the construction of air routes, as the whole Empire will benefit by them.

With regard to the limitation of air armaments, Lord Thomson points out that Great Britain is the only Power which has made a gesture in this direction; (by slowing down the expanion of the R.A.F. after Locarno), a gesture to which there has been no perceptible response.

Lord Thomson has a beautiful and touching faith in the League of Nations. He says :—" It may confidently be expected that there will always be in the Assembly at Geneva irrepressible and vigilant observers, who will not be stifled in committees, who will shed the fierce light of publicity on armaments, and will speak for the inarticulate majority in all lands, to whom war is an unmitigated curse."

It is rather a pity that Lord Thomson did not sink the idealist in the soldier and end up on a more practical note. But perhaps it would be hardly becoming in a Labour Leader to say " Let us prevent war by being in the position of the big boy who knocks together with force and unexpectedness the heads of any two small boys who want to fight."

C. M. MCA.

AUSTRALIA STILL ADVANCING.

According to *Aircraft*, the Australian Prime Minister, the Rt. Hon. S. M. Bruce, M.C., issued to the Press an important announcement concerning the development of Civil Aviation. The opening paragraphs of this statement announce that

The Government has decided to allocate an additional sum of £200,000 towards the development of Civil Aviation within the Commonwealth.

The amount at present expended is £115,000 per annum, and in making this substantial increase the Government has been actuated by the urgent necessity of bringing Australian Civil Aviation into line with the developments which have taken place elsewhere and the desirability of further exploiting the already tested commercial possibilities of aerial navigation.

This announcement also contains a list of the new air routes whose establishment will be made easier by this increase.

These are :—

(i) *Adelaide—Perth.* This service, for which twenty-three schemes have already been submitted, by four firms, will be submitted to fresh tender. The object of this airway will be to speed up European mails to and from the commercial centres of Australia.

(ii) *Camooweal—Darwin Railhead.* This route, of 650 miles, will ensure a weekly mail between Brisbane and Darwin, which will be three days in transit as compared with the present monthly mail which takes about eight days.

(iii) *Brisbane—Charleville.* This route will connect the capital of Queensland with the existing Quantas-operated Charleville—Camooweal service, and will reduce the time between Cloncurry and Brisbane from 3½ days by rail and 2½ days by air and rail to 27 hours by air.

(iv) *Sydney—Brisbane.* This route will bring the most distant portions of the Commonwealth within four days' journey of the Eastern capitals and will cut down the journey between the Queensland and New South Wales capitals from 27 to 7 hours.

(v) *Melbourne—Tasmania.*

(vi) *Sydney—Canberra—Melbourne.* This route will connect the capitals of Victoria and New South Wales by way of the new capital of the Commonwealth and while it is realised that the amount of traffic with Canberra will, for several years, be negligible, the service between Sydney and Melbourne will supply a definite need.

(vii) *Derby—Wyndham.* This is a comparatively short extension of the existing Perth—Derby route operated by West Australian Airways.

It must not be expected that all these lines will come into immediate operation, but it is satisfactory to know that all these services have been definitely sanctioned and the necessary funds have been made available.

The immediate programme is that the first of the new routes will be Perth—Adelaide. It is already prepared and should be in operation by February or March of 1928. Derby—Wyndham and Camooweal—Darwin will follow as soon as the grounds have been prepared. Charleville—Brisbane is now in course of preparation.

It is hoped that the amount made available will be sufficient for subsidy purposes; for the provision of aerodromes along the various routes and their maintenance; for the additional cost of administration; for training more pilots; for considerable improvement of the terminal aerodromes in the capital cities; and for all other activities in connection with the development of civil aviation, except airships.

The present organised and operated air routes have increased from 21,200 miles in 1924 to 45,100 miles in 1926, and the miles flown from 8,190,000 to 17,170,000 over the same period

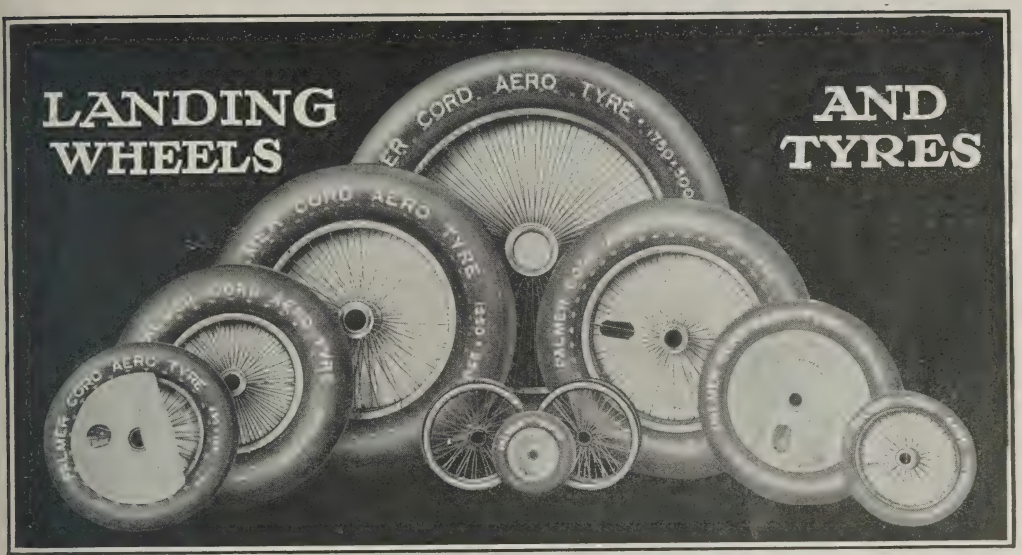
FLYING IN THE YUKON.

The Yukon Airways and Exploration Co. has acquired a Ryan monoplane and with this machine they will operate a mail service in the North during the coming Winter. Permission has been obtained from the Post Office Department and if the experiment proves a success the company hopes to obtain a contract for a regular service.

The pilots will be Mr. Cruikshank and Mr. Monday. Mr. Cruikshank of Oxford, England, served in 84 Sqdn. and has spent the last four years in the Royal Canadian Mounted Police in the Yukon. He recently took an R.C.A.F. refresher course at Vancouver and then proceeded to San Diego to take delivery of the Ryan Monoplane.

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STANDARD SIZES.

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38 09	132 46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132 46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
700×100	112	150.	38·09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×200	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W. 1.]

Report for week ending Oct. 16.

Flying Time 21 hr. 30 min. *Instruction* 16 hr. 10 min. *Soloists* 3 hr. 20 min. *Passengers* 2 hr. *Instruction.—With Mr. F. G. M. Sparks*—L. R. Winter, R. Hayes, F. C. Fisher, Miss Fletcher, E. A. Lingard, G. Black, G. H. Weston, M. P. Susman, L. Rowson, A. Fowler, J. H. Smith, G. Clemetson. *With Mr. S. L. F. St. Barbe*—A. J. Richardson, R. Hayes, M. Parkin, L. Burt, G. Clemetson, E. R. Andrews, Miss Wilson, J. A. Brewster, H. B. Michelmore, A. Fowler, G. H. Weston. *Soloist.*—Major Beaumont. *Passengers.—With Mr. S. L. F. St. Barbe*—Lady Carberry, O. J. Tapper. *With W. Hay*—Miss Darter, A. Fowler.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Chester.]

Report for week ending Oct. 15.

Flying Time 20 hr. 20 min. *Instruction* 9 hr. 25 *min. Soloists* 5 hr. 30 min *Passengers* 4 hr. 20 min. *Tests* 1 hr. 5 min. *Instruction—With Mr. Brown*—Messrs. Heath, Hall, Chart, Forshaw, Kiley, Browning, Ruddy, Benson, Allott, Brooking Harber, Sykes, Meades, Nelson, Miss Baerlein. *With Mr. Scholes*—Messrs. Rowley and Caldecott. *With Mr. Cantrill*—Mr. Nelson. *Soloists* (*under instruction*).—Messrs. Meades, Rowley, Forshaw, Caldecott and Anderson. *Pilots.*—Messrs. Nelson, Crosthwaite, Williams, Ward, Twemlow, Costa. *Passengers.—With Mr. Leeming*—Messrs. Sandham, Shackleton, Minster, Fagg, Etchells and Miss Borwick. *With Mr. Goodfellow*—Mrs. Lightfoot, Miss N. Plant and Miss H. Plant. *With Mr. Lacayo*—Messrs. Hartley and Allott. *With Mr. Twemlow*—Mrs. Twemlow, Mr. Allott. *With Mr. Brown*—Mr. Chambers. *With Mr. Cantrill*—Mr. Parker.

Notes.—The week has been singularly free from excitement, indeed, but for a tree-trunk, it would have been positively dull. The tree-trunk was lying on the aerodrome and that naughty old lady MQ landed on it. She'll know better next time.

OK is back in the fold again and so is RR. QL, which replaces LV, will be in service on Tuesday. Out of the sundry fuselages, empennages, aerofoils and whatnots in the hangar LV is being rebuilt and has already been sold to Mr. Anderson, one of our members, who proposes to allow the rebuilt machine to be used by the Club when not in use by himself—a very sporting proposition.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Oct. 16.

Flying Time 10 hr. 15 min. *Instruction.—With Mr. G. F. Lines*—Messrs. H. Varden-Smith, H. Neare, H. Mack, R. F. Potter, A. J. Finch. *Soloists.*—Messrs. W. P. Cubitt, R. Harmer, W. A. Ramsey, R. W. C. Moore, F. Gough. *Passengers.—With Mr. G. F. Lines*—Mrs. R. F. Horner, Messrs. A. Bagshaw, M. Smith. *With Mr. G. Moore*—Mr. B. Sutton.

Notes.—Great activity prevails, or has done so, during the last few days—Subsidies, new machines and telephone accounts, etc. Official confirmation has been received regarding the subsidy. But before this happened, the Executive, having read the reports of the Bristol meeting, rushed into the board-room and considered things heavily, the result being that we received on the 16th inst. one complete Avro (G-EBPG), Renault engine, lots of gadgets, compass, etc., and she is in excellent trim.

All active members (solo, dual or passenger) can now be accommodated. It is hoped that applications for instruction will roll in.

The famous "Moanoplain" G-EBRW (or EBREW) is expected to lift ere long. Mr. Martin is getting it completed for the trials this week, the first attempt being "The crossing of the Wensum."

Mr. R. Harmer successfully negotiated his height test on the 15th; one heard that he went so high that he ducked to miss a star.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Oct. 16.

Flying Time 7 hr. 5 min. *Instruction.—With Mr. Lowdell*—Miss D Creasy, Dr. Sleigh, G. Hutley, S. Schofield, N. Creasy. *Passengers.—With Mr. Lowdell*—F. H. Jolly, T. Marriage. *With C. N. Prentice*—Miss Creasy.

A Farewell Dinner and Dance to wish our voluntary instructor, Flt. Lt. D. Carnegie, God-speed on his Far-East flight, was held at the Crown and Anchor Hotel, Ipswich, on Oct. 4. He will be sorely missed in the Club circle. His great interest and untiring efforts to help the Club in its initial stage will always be remembered and the members as a token of their appreciation presented him with a silver cigarette case suitably engraved.

Mr. Prentice flew the Bluebird over to our new aerodrome at Hadleigh last Wednesday and we are now quite settled there. We shall be pleased to see any friends who care to come along. Flying is in full swing Wednesday and Saturday afternoons and all day Sundays. One member successfully passed his test and obtained his "A" Licence this week.

We are now endeavouring to furnish our Club-house and as the Committee will not authorise any expenditure in this direction, may we appeal to those wealthy, luxurious over-furnished subsidised Clubs to pass on any old chairs, rugs, pianos, etc., for which they have no use. Kindly deliver in "plane" vans.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Oct. 9.

Flying Time 32 hr. 25 min. *Instruction* 11 hr. 4 min. *Soloists* 11 hr. 45 min. *Passengers* 7 hr. 40 min. *Tests* 1 hr. 15 min. *Instruction.—With Flt. Lt. Thomson*—Miss Home, Mrs. Andrea, Mrs. Aitken Dick, Mrs. Ranald, Major Andrea, Lieut.-Commander Woodhouse, Captain Molyneux, Lieut. Hall Thomson, R.N., Lieut. Lambe, R.N., Lieut. Mandeville, R.N., Messrs. Cripps, Fawkes, Puttock, Nuthall, Hall, Whittle, Williamson, Baynes, Boileau, Hancock, Evans-Penman, Stanford and Lieut. Graham, R.N. *Soloists.—(Licensed)*—Lieut. Oliver, R.N., Captain Yeatman, Flg. Off. Southey, Don J. de la Cierva, Messrs. Wyllie, Bowen, Murray, Wells, Fagan and Mrs. Ranald. *Soloists.—(Training)*—Miss Home, Lieut. Graham, R.N., Lieut Lambe, R.N., Captain Molyneux, M.C., Hon. H. R. Grosvenor, and Messrs. Cripps, Parker and Stanford. *Passengers—With Flt. Lt. Thomson*—Lady Jane Hardy, Miss D. Fullerton, Captain Kirby, Miss Cripps, Messrs. Swinburn, Perry, Massey and Macgill. *With Mr. K. P. L. Bowen*—Miss Day, Mrs. Crook, Mrs. Bridges, Mr. Massey, Mr. Bridges and Mr. Menzies. *With Mr. Murray*—Miss Clouston, Mrs. Clouston and Mrs. Pasteur. *With Mr. E. I. C. Wyllie*—Mr. Phipps. *With "Don J."*—Mr. Alexander. *With Lt. Oliver, R.N.*—Mr. Miles. *With Mr. Fagen*—Mrs. Stokes.

Notes.—This has been a record week for this club inasmuch as four pupils were successfully launched solo. Also our first lady member to go solo was sent off on Tuesday. She was Miss M. M. Home, one of our very first members, and doubtless she would have flown solo much earlier had it not been for the fact that when she was well advanced in her instruction she went abroad for some months and only recently returned. The others were Lieut. C. E. Lambe, R.N., Capt. H. T. Molyneux, M.C., and Mr. D. A. R. Cripps.

Lieut. Lambe had received only 3 hr. 20 min. instruction, and is stated by our instructor to be a most amazing pupil, and a born pilot. His dual instruction consisted of eight lessons of from twenty to thirty minutes each, and he flew his first solo four weeks after his first lesson. Unfortunately he has now been posted to Malta.

On Saturday, Mrs. Ranald, who gained her "A" licence at the Henderson school of flying, made an excellent solo on a Moth for the first time with this type of aircraft.

On Tuesday of this week, Don Juan de la Cierva kindly invited some of the club members to have a ride in his Autogiro. Having hurried away to read Capt. Sayers' article on this invention recently published in The Aeroplane, and then deciding to risk it, D. A. R. Cripps and R. H. Bound each took a turn in the passenger's cockpit. To the best of one's information, several other members subsequently availed themselves of the offer.

Personally, one was delighted with the feel of this aircraft in the air with the exception of coming in to land, when it was rather harrowing to find oneself still one hundred feet above the ground with the A.S.I., recording something between twenty and twenty-five m.p.h. Incidentally, one would like to suggest to Don Juan that he provide a ration of that famous beef extract in the front cockpit to prevent that sinking feeling at this moment. But seriously, it would be interesting to know what the actual angle of descent is under these conditions. Senor de la Cierva had a great day on Wednesday, when he had the novel experience of giving his own instructor dual instruction. Flt. Lt. Thomson had one lesson on the Autogiro and then flew it solo. He views this machine with considerable misgiving, as he fears that when it ultimately comes into its own all flying instructors will lose their jobs as no instruction will be necessary. These are his own words, so evidently the Autogiro is very easy to handle.

One other item of news before we close down. A dance was held in the clubhouse on Saturday evening, and the organiser, Mr. R. V. Perfect, is to be congratulated on the sitting-out room. It was voted a great success. Personally, one spent most of the intervals rushing out on to the "lawn" to see how many more of the Japanese lanterns decorating the shrubbery had gone up in flames.—R. H. B.

Report for week ending Oct. 16.

Notes:—Owing to the log book not being available, it is not possible to give flying times this week. Only one machine has been in action, G-EBOI having an engine overhaul. During this week, Mr. Falconer, who had been partly trained on Avros in the R.A.F. Reserve at Renfrew made an excellent first solo. Four pupils, Miss Home, Mr. Cripps, Mr. Whittle and Mr. Falconer, also made their second solos.

On Sunday, Mr. Holindrake arrived from Stag Lane in his Avian carrying Miss Peggy Lynch in the passenger's cockpit. Very cheery visitors! We hope they will come again

The Midland Aeroplane Club.

[Sec.: Gilbert Denison, Villa Road, Handsworth, Birmingham.]

Report for week ending Oct. 15.

Flying Time 16 hr. 18 min. *Instruction.—With Mr. W. J. McDonough*—E. P. Lane, J. E. Brewin, N. Crane, R. Khatri, H. J. Lattey, G. Robson, R. Darlington, V. de Stage, R. L. Brinton. *Soloists*—R. L. Jackson, R. L. Brinton, S. H. Smith, R. D. Bednell, E. J. Brighton, V. de Satge, C. W. Fellows, W. Swann. *Passengers.—With Mr. Brighton*—W. C. Willden, J. H. Moore, E. G. Hall, E. D. Wynn, H. J. Lattey, J. G. Wood, D. B. Browne. *With Mr. Jackson*—L. V. Mann.

Notes:—On Sunday Mr. R. D. Bednell successfully passed for his Certificate. During the week Mrs. Eliott Lynn on a Moth, Mr. Taylor on an Avro, Mr. Cameron on an Avro, and Mr. Lancaster on the Avian in which he intends to fly to Australia, paid us a visit.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Oct. 15.

Flying Time 31 hr. 30 min. *Instruction* 11 hr. 40 min. *Soloists* 18 hr. 15 min. *Passengers* 1 hr. 35 min.

Instruction.—With Mr. Beck—Miss Woodhead, Messrs. Dawson, Hilcy, Lister, Dane, Shires, Ellison, Miller, Bell, Hirst, Mason, Humphries, Swift, Yeomans, Parker, Ellis, Collins, Thompson, Glden, Batcock, Lax, Fitton. *With Mr. Stockbridge*—Mr. Ostler. *Solo Instruction*—Messrs. Lax, Lister, Ellison. *"A" Pilots.*—Messrs. Dawson, Thompson, Mann, Brackenbury. *Passengers.—With Mr. Beck*—Captain Sturton, Mr. Beazer. *With Mr. Brackenbury*—Mr. Bell. *With Mr. Stockbridge*—General Sir Sefton Brancker.

Notes:—During the week Mr. Jack Ellison did his first solo flight, and put up an excellent performance on a Club Bluebird. Mr. R. K. Lax has now passed his Certificate tests and will we hope get his "A" Licence during next week. On Sunday we had beautiful weather and a good many members turned up.

Mr. J. B. Stockbridge, one of the R.A.F. Reserve Instructors at Brough, and Honorary Instructor to the Club, took a Club Bluebird to Bristol, calling at Hendon on the way, where he picked up Air Vice-Marshal Sir Sefton Brancker and took him on to Bristol.

On Saturday Flg. Off. Dick Atcherley appeared on an S.E.5.

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The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Oct. 15.

Flying Time 18 hr. 20 min. *Instruction* 11 hr. 35 min. *Soloists (under Instruction)* 4 hr. 45 min. *Passengers* 2 hr. *Instruction.—With Mr. Bartlett*—Miss O. Miles, Messrs. Bathurst, Bryan, T. H. Clarke, Downes-Shaw, R. A. Hall, C. E. Pitman, J. Pitman, Roberts, Jopp, and Welch. *Soloists (under Instruction).*—Miss Miles, Messrs. Bathurst, Downes-Shaw, Hall, C. E. Pitman, and Tratman. *Passenger.—With Mr. Tapp*—Miss Tapp.

Notes.—Miss Miles is the first of our lady pilots to go solo.

The weather has been good for flying, which has enabled the club to demonstrate to new members who have joined since the official opening on Oct. 8 and to those who came to make inquiries.

The Aero Club of South Africa.

The Aero Club of South Africa is now affiliated to the Royal Aero Club and an agreement has been entered into whereby the Aero Club of South Africa is the Official Representative of the Royal Aero Club in South Africa.

The Aero Club of South Africa embraces the various Aero Clubs established in South Africa at Cape Town, Durban, East London and Johannesburg.

Lt.-Col. W. D. Beatty, C.B.E., A.F.C., who was for several years on the Committee of the Royal Aero Club in London, has taken an active part in the formation of the Aero Club of South Africa and has been elected its Chairman.

THE LATEST ATLANTIC STUNT.

On Oct. 11, at 05.04 hours Capt. Haldeman and Miss Ruth Elder left Roosevelt Field, Long Island, N.Y., on a Stinson monoplane (220 h.p. Wright Whirlwind engine) in an attempt to fly to Paris. At 22.35 hours they were sighted by s.s. *American Banker* at a point some 500 miles W. of New York.

On Oct. 12 they were forced to descend in the sea at a point 550 miles N.E. of the Azores with a broken oil pipe. They alighted alongside s.s. *Barendrecht* and were taken on board but efforts failed to save the machine.

The stubbornness with which some people persist in trying to fly across the Atlantic is amazing.

A statement has been made that in this last attempt there was no desire for personal publicity, but that Miss Elder had never been to Europe and thought this would be a good way to do it.

It is a great pity that some people cannot reason in larger terms than personal desire. It is perfectly obvious that no matter what happens personal publicity will be obtained. That it will be obtained whether the attempt be successful or disastrous is a regrettable feature of these perfectly useless flights on unsuitable machines over vast expanses of difficult and stormy water.

The utter futility of the flight, which failed through the breakage of a piece of equipment, and should, under normal conditions, have led to complete disaster, is demonstrated by the present position of the two fortunate members of the crew. According to *The Times* New York correspondent the business organisation of Wheeling, W. Va., which was backing the expedition of Miss Ruth Elder and Capt. Haldeman, telegraphed to them yesterday (Oct. 13), "Go to Paris." Their flying feat is being counted upon to yield a handsome monetary return and the representatives of the organisation in New York are doing a brisk business in possibilities, chaffering for the sale of the flyers' own stories to newspaper syndicates and passing on to Wheeling proposals for film contracts.

A New York night club operator telegraphed Miss Elder yesterday (Oct. 13) offering her $10,000 a week to appear in his place. Two cinema theatres are competing for her services and the owners of a vaudeville circuit are expecting her to sign a contract to appear at their scores of theatres, etc., etc.

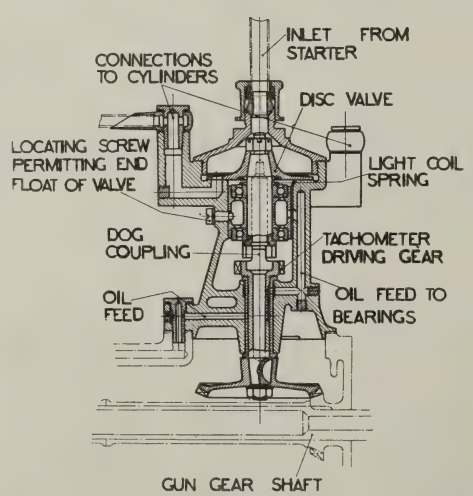
Can it be believed that there was no desire for publicity? If such a lack of desire had been genuine then such a flight would never have been attempted.

The sooner the exhibitors of such foolhardy bravado realise that their acts lower them in the eyes of the more discerning public to the level of cabaret turns and performing animals the better it will be for the cause of aviation. Their backers are, of course, merely on a level with theatrical agents and big-fight promoters.

While one must admit that a certain amount of animal courage is needed to attempt to fly the Atlantic at this time of the year, surely there are other fields of adventure which hold the same newspaper or "movie" value. If these publicity seekers would divert their attention to those directions they would spare aviation the degradation of being dragged into the depths of cheap sensationalism.

Meantime, when the daily and evening papers placard the country with posters alleging that anxiety about the latest trans-Oceanic stunters is racking the nerves of the World, they may at any rate except from that anxiety the people who are really concerned with and for aviation, for the truth is that none of the aeronautical community cares twopence what becomes of anybody who is fool enough to try to fly any ocean in these days, unless the attempt is made on some new type of aircraft which demonstrates progress in some way or other and is primarily designed for that purpose.

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 17; Tuesday, 14; Wednesday, 19; Thursday, 16; Friday, 17; Saturday, 17; Sunday, 7.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 42, passengers 385, freight 14 tons.

AIR UNION:
Paris—London: Machines 38, passengers 150, freight 14 tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 12, passengers 49, freight 3 tons.

SABENA:
Brussels—London: Machines 3, passengers 6.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 12, passengers 30.

COMPAGNIE AERIENNE FRANCAISE:
Machines 0, passengers 0.

PRIVATE:
Machines 1, passengers 1.

Total number of trips by British Machines 43, carrying 386 passengers. Foreign Machines 65, carrying 235 passengers.

COMPARATIVE FIGURES.

Week ending Oct. 16:
Machines, 108; Passengers, 621; Crews, 198; Total personnel, 819.
Corresponding week, 1926:
Machines, 65; Passengers, 262; Crews, 79; Total personnel, 341.
Corresponding week, 1925:
Machines, 96; Passengers, 346; Crews, 122; Total personnel, 468.
Corresponding week, 1924:
Machines, 86; Passengers, 370; Crews, 114; Total personnel, 484.
Corresponding week, 1923:
Machines, 84; Passengers, 232; Crews, 131; Total personnel, 363.
Corresponding week, 1922:
Machines, 89; Passengers, 261; Crews, 151; Total personnel, 412.
Corresponding week, 1921:
Machines, 66; Passengers, 226; Crews, 87; Total personnel, 313.
Corresponding week, 1920:
Machines, 90; Passengers, 160; Crews, 104; Total personnel, 264.

Croydon Notes.

On Thursday, Oct. 13, Capt. Lancaster and Mrs. Keith-Miller left Croydon on an Avro-Avian with Australia as their ultimate objective. At the moment of writing they are known to have reached Lyon on Sunday evening.

For some reason or another this particular flight does not seem to be taken very seriously by those who have seen the preparations for it being made at Croydon. For the good of British Aviation in general one may however hope that the attempt will meet with better success than is generally predicted.

At this season of the year the meteorological and wireless services at Croydon begin to have their busy time. Although the air line traffic is now on the winter scale, and decidedly less in volume than during the summer, what traffic there is tends to get bunched together in the middle hours of the day.

Under these conditions on a day of poor visibility there may be several aircraft in the air all wanting their position and a weather report at or about the same time. There is not a great deal that can be done to improve the brevity of the weather reports sent out by Croydon, and it is difficult to see how any of the items included in these reports could safely be deleted.

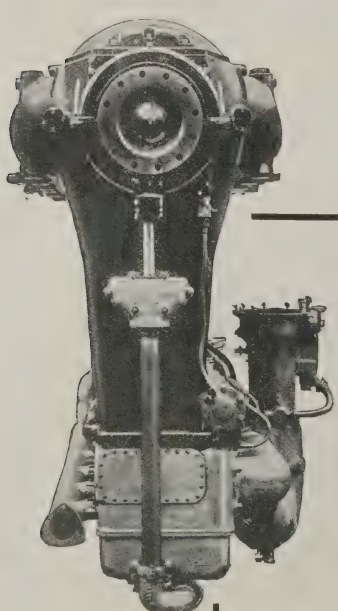
There does seem to be a certain amount of room for improvement on the part of certain of the aircraft wireless operators, particularly on the part of certain foreign lines. It is quite easy to waste time, and to interfere with the service to other aircraft by undue verbosity and impatience.

There is actually a proposal which will come before I.C.A.N. in the near future to limit rigidly the information to be given in weather reports. Presumably this proposal is intended to reduce the congestion which is sometimes found in the ether to-day, but it would be singularly unfortunate if this proposal were adopted. There should certainly be complete elasticity in this matter, so that no information really useful to the pilots need be withheld.

This question of adequate meteorological reports for pilots is one of the first importance for the development of civil aviation, but it is one which presents a number of very serious difficulties. An example of one of these difficulties may here be given.

A pilot is approaching Lympne on his way to Croydon. He asks for Croydon weather. There is or has been a violent sleet or snow-squall at Croydon giving no visibility at that place. That squall may have ceased at the moment of issuing the report, but unless it has ceased—or has shown definite signs of decreasing for at least ten minutes, Croydon reports the squall and no visibility, and says nothing about the improvement.

There is a very good reason for this. Weather of this type may—often does—suffer temporary and very sudden changes. Unless the change persists for a definite time it would be



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Aeronautical Research Committee.
Reports and Memoranda No. 1,001, p. 103.

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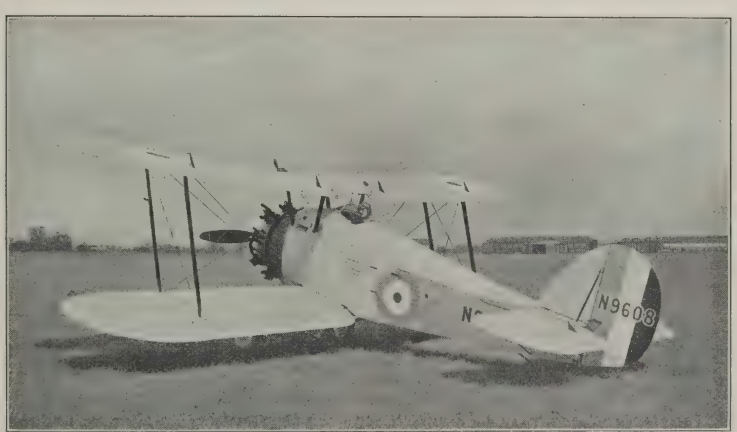
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risky to tell the pilot the conditions were improving. They are quite likely to be as bad as ever by the time he gets to Croydon.

A pilot receiving such a report at Lympne will usually decide to land at Lympne—although in fact the squall may have ceased before he does so. Usually speaking the cross-channel machines have not enough reserve petrol to carry on past Lympne in the hope that the weather will clear at Croydon, and to go back to Lympne if their hopes are falsified.

As has before been said in this column, it is very doubtful indeed whether the policy of cutting fuel reserves to such fine limits is really sound. Given an ample fuel reserve it would be safe for Croydon to report a probable improvement in cases such as above described and leave it to the discretion of the pilot whether he should come on or not.

A QUANTAS EXTENSION.

On July 1 the Queensland and Northern Territory Aerial Services Ltd., which company operate the Charleville—Cloncurry—Camooweal air route, opened its extension from Camooweal to Normanton on the Gulf of Carpentaria.

A Quantas-built D.H.50a "Perseus," piloted by Mr. Hudson Fysh, the managing director of Quantas, left Cloncurry at 08.00 hours carrying approximately 500 letters and a consignment of newspapers.

The distance of 215 miles was covered in 2 hours 40 minutes, the machine landing to schedule at 10.40 hours.

The return journey was made in 135 minutes, the machine carrying mail and merchandise.

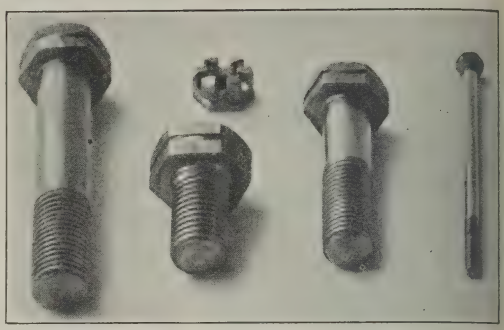
Normanton is the centre of a well-established cattle industry and a rapidly-expanding sheep industry. Previously communication between Brisbane and Normanton has relied solely on a monthly steamship, and the new service reduces the journey from 16 days 3½ hours to 3 days 3½ hours.

THE ROYAL AERONAUTICAL SOCIETY.

At a meeting of the Royal Aeronautical Society—with which is incorporated the Institution of Aeronautical Engineers—to be held on Thursday, Oct. 20, at 6.30 p.m., at the rooms of the Royal Society of Arts, John Street, Adelphi, Mr. M. L. Bramson will read a paper on Safety Devices for Aircraft.

ANOTHER AID TO VICTORY.

In the long list published recently of those who contributed to the winning of the Schneider Trophy by supplying material and parts for the building of the winning machines the name of Rubery, Owen and Co. Ltd. was unfortunately not mentioned. This firm was one of the first to specialise on steel work of all kinds for aircraft, all the way from big pressings for engine mountings down to special nuts and bolts of odd sizes and shapes.



A GOOD FINISH.—Examples of nuts and bolts made of "Staybrite" steel by Rubery, Owen and Co. Ltd.

For a considerable time Rubery, Owen and Co. have supplied both the Supermarine Aviation Works and the Gloster Aircraft Co. with special bolts and nuts made of "Staybrite" steel. This is an improved stainless steel which while having a greater resistance to sea water and being for that reason preferable to ordinary stainless steel is much more difficult to machine

One believes that Rubery, Owen and Co. were the first manufacturers of bolts and nuts to machine this material successfully with a high-class finish. The accompanying illustration, which is made from a photograph which has not been touched up in any way, will give a good idea of the high-class finish which the firm are now getting with this steel. The nuts and bolts in the picture are similar to those which were actually supplied for the winning machine and its stable companion in the Schneider Trophy Contest.

MORTGAGES AND CHARGES.

De Havilland Aircraft Co. Ltd.—Mortgage on certain land at Kingsbury, Mdx., dated Oct. 3, 1927, to secure £5,600. Holder: A. S. Butler, 4, Princes Gardens, W.

PERSONAL NOTICES.

Marriages.

CROOK—GARNETT.—On Oct. 12, at St. Andrew's Church, Blackwell, Joseph Alan Crook, M.C. (late Major, R.A.F.), only son of the late Mr. J. B. Howard Crook and Mrs. Crook, of 36, Alexandra Court, London, S.W., to Margaret Jeanie Russell, elder daughter of Mr. and Mrs. Garnett, of Backwell Hill House, Somerset.

HEATH—ELIOTT LYNN.—On Oct. 11, at Christ Church, Down Street, London, Sir James Heath, Baronet, to Sophie Mary Eliott Lynn,

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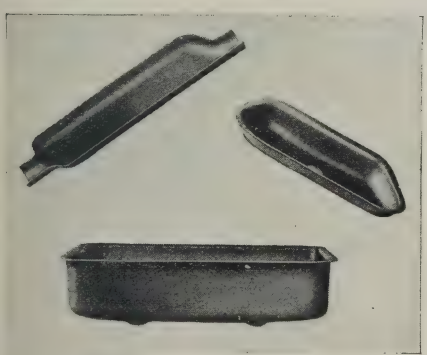
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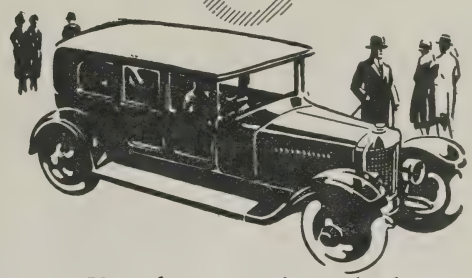
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C 17-14

daughter of the late John and Theresa Mary Peirce-Evans, of Knockaderry, Co. Limerick, Ireland.

In reporting this wedding *The Daily Express* stated that Mrs. Elliot-Lynn described herself in the register as a widow, aged 30. On Oct. 8, the *Express* published the following paragraph :—

"Mrs. Mary Elliot-Lynn, the widow of Mr. Williams Davies Elliot-Lynn, asks *The Daily Express* to state that she is not the Mrs. Elliot-Lynn who was married last week to Sir James Heath. *The Daily Express* greatly regrets any inconvenience which may have been caused to her by the accidental reference to two identical names. The late Mr. Elliot-Lynn was twice married, the lady who married Sir James Heath having been his first wife, the marriage being subsequently dissolved."

BIRTHS.

ATKINSON.—On Oct. 9, at Boston, U.S.A., Elizabeth (*née* Couch), wife of John Eric Atkinson (late R.A.F.), of a daughter (Emily).

CHAMPION DE CRESPIGNY.—On Oct. 12, to Sylvia, wife of Sq. Ldr. H. V. Champion de Crespigny, M.C., D.F.C., No. 39 (Bombing) Sqdn., R.A.F., Grantham, Lincs—a son (Robert Vivian).

LUGG.—On Oct. 6, at the Red Lion Hotel, Hampton, to Mabel Iris, wife of Flg. Off. G. C. Lugg, R.A.F.—a son.

WALKINGTON.—On Sept. 30, to Flt. Lt. and Mrs. C. F. Walkington, R.A.F. Base, Calshot, Hants—a son (Ian Alexander Greet).

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THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Gray

Vol. XXXIII. No. 17. SIXPENCE WEEKLY. Registered at the G.P.O as a Newspaper.

"LET US SURVEY THE VANTAGE OF THE FIELD."

(SHAKSPEARE—*Richard III.*)



A ZAMBESI EXPEDITION:—The Aircraft Operating Company Ltd.'s Rhodesian Border Survey Party at N'Changa. Front Row: (reading from left to right) Mr. W. D. Corse (the photograph specialist), Major R. A. Logan, Major C. K. Cochran-Patrick (Director in charge of the expedition), Captain Roxburgh-Smith (second pilot), Mr. C. J Bishop (astronomical surveyor). Second Row: Messrs. A. C. Watts, C. R. Best, S. Millyard (foreman), A. Latimer and O. G. Button. Back Row: The Company's native staff. The mound behind the D.H.9 Nimbus is an ant-hill.

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OCT. 26, 1927.

THE AEROPLANE

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VOL. XXXIII. No. 17.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON SALVATION BY SLOTS.

When the official announcement was made in THE AEROPLANE of July 27, 1927, that all Bristol Fighters in the possession of the Air Force were to be fitted, at some future date not specified, with Handley Page Slot-and-Aileron Control, one added the comment that the method of operating the control which was to be fitted to these machines—a method evolved by the Royal Aircraft Establishment at Farnborough—was a long way behind the most recent development of the control produced by Handley Page Ltd. This comment was made because at that time one knew of the automatically operated slot which was discovered last week by the daily Press through the indiscretion, or breach of faith, of somebody who was in the secret.

Thus again, as has happened so often before, THE AEROPLANE'S reward for honouring the confidence which has been placed in it is to see itself scooped by the daily Press.

Nevertheless, the probability is that the possibly somewhat premature disclosure of the Automatic Slot will hasten the adoption of this history-making device and so will decrease in a shorter time the number of accidents which happen in Service and Civil Aviation.

POSSIBILITIES.

In his able lecture on Safety Devices on Oct. 20 Mr. Bramson quoted French statistics to show that of 100 accidents 54 were due to errors of judgment and 22 to engine failure. A fatal accident following an engine failure is almost invariably due to the pilot's inability to make a safe landing, which in itself, though it may be hard luck, amounts practically to the same thing as an error of judgment. In other words, 76 per cent. of accidents are due to an inability to land safely when something happens.

One would not be far out if one said that out of those 76 fatally bad landings 60 at least are fatal because in an effort to land, or in an effort to get off the land, the pilot stalls his machine and either nose-dives straight, or spins and nose-dives, into the ground.

For the benefit of the uninitiated, one can safely make the sweeping statement that with Handley Page Slot (plus aileron) Control, even the worst pilot cannot spin and nose-dive if he stalls his machine.

Proper control, which can be secured by this means, means abolishing practically all fatal accidents due to stalling through trying to get off, stalling in landing, stalling through trying to get to a safe landing ground, and stalling when turning to get back to the aerodrome with a failing engine. In fact, short of sheer bad steering and pushing a machine straight into a building or into a wall, no pilot ought to be able to kill himself or anybody else in a stalled machine in future.

Undoubtedly quite a number of fool pilots will stall their machines and drop them on the ground with a bump which will push the undercarriage up through the fuselage, but they will find it quite difficult to kill themselves by doing so. But the slot control does at any rate remove from flying the one particular form of accident which has no exact counterpart in any other form of transport.

And consequently flying may in future be regarded as pretty nearly as safe as travelling by motor car, train or boat.

All this is very nearly a repetition of what has been said in THE AEROPLANE at intervals for seven and a half years—ever since the principle of the Handley Slot was first made known to the World in this paper on March 3, 1920. But since that date so many new people have come into aviation that it is worth while to repeat what the proper use of slot control really means to flying.

One was not in the least exaggerating when one described Mr. Handley Page (including his technical assistants who helped in the experiments, on the principle that the greater includes the less) as the Saviour of Aviation.

THE TIME AND THE MAN.

There is an old proverb to the effect that the time finds



STALLED BUT CONTROLLED.—A Bristol Fighter, with Handley Page Automatic Slots, flying at Cricklewood last week.—The lump on the tail-skid is only turf.—(*"Aeroplane" photograph.*)

the man. We have just reached the time when the whole World is becoming airminded. Everybody is interested in flying, almost everybody in every civilised country has flown, and practically everybody who has flown likes flying.

The skill of pilots and the carefulness of operating staffs have reduced accidents in air transport to such an extent that quite a large proportion of the general Public already regard flying as quite a reasonable transport risk. In other words, as has often been said in The Aeroplane, when people get used to being killed in a certain way they cease to regard that particular method of decease as a danger.

But those who really know anything about flying, except perhaps professional pilots, who, like all experts, regard with disfavour anything which makes for safety, have been waiting all these years for some device to cure the one great danger of flying, the spin and/or nose-dive following a stall.

Now we have got it, and the effect is very much like the discovery of vaccination, and the discovery of the pneumatic tyre rolled into one. It is going to decrease the death-rate, and it is going to make transport for the few into transport for everybody.

When the effect of the leading edge slot was first made public, we all knew that it made for safety in that it made landing in and getting out of small spaces practical.

On March 3, 1920, one wrote :—" It seems more than possible that Mr. Handley Page's technical and experimental department has done for aviation what Dunlop, Welch, and Bartlett did for road vehicles. If so we are on the verge of a new era in aviation, and have before us a boom in aerial transport and in aircraft production alongside which the war-boom in aviation will seem but a circumstance." Since then we have served another seven years (like Jacob) without losing faith.

Mechanical Troubles.

When three or four years later the discovery was made that by working the outer section of the leading edge slot in-and-out in conjunction with the ailerons, one realised that here was the Heaven-sent means of controlling an aeroplane when it was flying below stalling speed. And on April 15, 1925, at Croydon, Flt. Lt. Bulman, then a test pilot at Farnborough, demonstrated to a still unbelieving Trade, with an Avro, what slot and aileron control could do.

Then came the problem of how to produce a mechanism which would be light enough in weight and easy enough in working to make it worth while. We went through all the usual slow process of designing clumsy and complicated mechanism to do quite a simple job, and then simplifying it again. We have nobody to preach Mr. Bill Stout's slogan " Simplicate and add more lightness."

Reams of Air Ministry Publications have been issued describing experiments (quite half of them absurd and useless) with slotted wings. A small proportion of those Publications have shown that at any rate the official experimenters were working slowly in the right direction. But nobody knew what the Handley Page experimenters were doing on their own account.

Simplicating.

Then, quite lately, a few privileged persons learned that some bright individual had been struck by the idea that what the scientific people call the " auxiliary aerofoil," that is to say the " slat " which by moving forward opens the slot between itself and the true leading edge of the wing, would work itself if allowed to do so.

When you come to think it out, nothing could be more obvious. When the slat, or aerofoil, is pushed forward, either on push-and-pull sliding rods or on pivotted plates, and the wing itself is held down by the tail of the machine in a hopelessly stalled position, the auxiliary aerofoil becomes just an ordinary small aeroplane in its proper flying position. That is to say, it is lifting all it knows how.

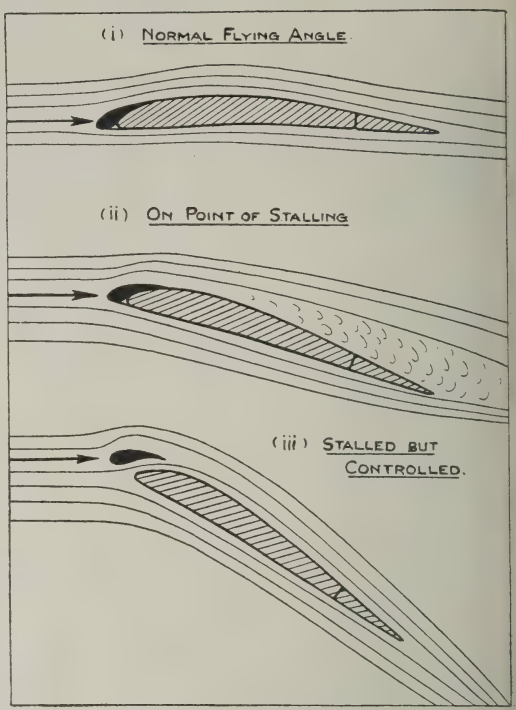
How it Works.

Consequently, if that little aerofoil is left hanging loose on links to flap open or shut as it likes, so long as the machine is flying with its tail up in a normal flying position the aerofoil, which is then a kind of false leading edge, will be pushed back against the true leading edge. As soon as the wing is stalled by shoving the tail down, the leading edge of the wing, on top of which the auxiliary aerofoil is only a movable plate, gets into such a position that the airflow sucks that aerofoil plate up, and the slot is open.

Naturally there is a lot of highly technical design-work about precisely the right shape for the slat or aerofoil, precisely where the links which hold it are to pivot so that it will open just before the danger-point of actual stalling is reached, precisely how much the aerofoil must be allowed to move forward to give the right size of slot, and so forth. But the principle of the thing is perfectly obvious—when once it has been explained.

The Controlled Stall.

Given the slot which opens automatically, the rest of the proposition is easy. When the machine is stalled, the slot is already open. When it tries to roll over to one side, the pilot automatically shoves the control stick over to the other side, pulls down the aileron on the lower wing and pulls up the aileron on the upper wing.



WHY IT WORKS.—A diagrammatic idea of the operation of the automatic slot.

By simply connecting each auxiliary aerofoil to the corresponding aileron, by a wire or other suitable fitment, as soon as the aileron is pulled up by the pilot the corresponding slot is shut, the lift of that wing is killed, the raised aileron tends to push it down, and, as the other wing is still lifting as hard as it can, with the slot open, the machine comes back to an even keel.

One imagines that ultimately even more perfect control can be got by abolishing the aileron altogether. For a flat flap on a hinge is an ugly thing for a decent air-stream to pass over.

The Official Way.

The earlier experiments with inter-connected slots and ailerons were comparative failures, because the slats were operated either with push-and-pull rods, or by being mounted on fore-and-aft plates pivotted on a long tube running inside and parallel to the leading edge of the wing. All this mechanism of R.A.E. design was very heavy, and the various joints and pulleys and bell-cranks, and slides, and so forth embodied in it were stiff to work. They made the machine heavy, and they made the controls heavy in the hand.

But even so, the advantage of the combined slot and aileron control was so great that the Department of Supply and Research at the Air Ministry had decided to use it, simply because, thanks to the enlightened officers now in control, the fact was realised that there was more wisdom in using an imperfect mechanism which would save life than in waiting for a perfect mechanism to be evolved—which was the mistaken policy which delayed the use of parachutes for ten years and cost us hundreds of lives in the War about 1917-18.

All the complicated designs for this officially-designed mechanism can now be scrapped, and the good old Bristols of the Army Co-operation Squadrons can now be equipped with the automatic slot.

Hope and Certainty.

Naturally some months must pass before the machines in the squadrons can be so equipped. In the past one would have said some years. But the new energy which infects the technical side of the Air Ministry will probably make those years into months.

In the meantime one hopes that experiments will be so pushed forward with the automatic slot that within at any rate a couple of years not only the Army Co-operation machines but every machine in the Air Force will be slot-controlled.

Progress!

Referring to Great Britain's victory in the Schneider Trophy race at Venice on 26th September, 1927, THE MOTOR, *in their issue of 4th October, says:—*

"THE progress represented in the engine (Napier) used in the machine that won for England the Schneider Trophy, when compared with its forerunner of under thirty years ago, is such that no relative combination of scientific and engineering advancement in a like period in connection with locomotion can be found to compare with it."

The winning machine—a Supermarine-Napier fitted with Napier engine—was piloted by Flight-Lieut. Webster, A.F.C., and averaged 281.669 m.p.h.

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Napier engines have been selected for the Royal Air Force cruise to Australia with four Supermarine "Southampton" flying boats, which started from Plymouth on 17th October, 1927.

Prophets of the obvious have already blazoned forth in the daily news-sheets the fact that after official experiments the perfected device will become a standard fitting in aeroplanes ordered by the Royal Air Force. That is about as clever as saying that umbrellas and macintoshes will be much worn during the coming months. Naturally when the details of design have been worked out an aeroplane without slot control will be about as useful as a motor-car without brakes.

The really interesting thing to watch about the development of the slot control will be how long other aircraft manufacturers take to adopt it. The bicycle-plumbers of Coventry took from 1888 till 1894 to make pneumatic tyres a standard fitting, chiefly because they refused to believe that an Irish veterinary surgeon named Dunlop and an Irish paper-bag dealer named Ducros knew more about bicycles than they did. At any rate the British Aircraft Trade must admit that Handley Page knows something about aircraft.

Naturally Handley Page Ltd. must be out to make money. Nobody imagines that they are in business for their health. But Mr. Handley Page and his colleagues are very much too clever to imagine that the way to make money out of a monopoly is to stick out for prohibitive prices.

There is a lot more money to be made out of small royalties in mass production than there is out of big royalties on ones and twos. One imagines that the most sensible thing to do would be to proportion the royalty to the price of the aeroplane, regarding the slot control as an insurance.

On a £10,000 aeroplane the owner might be willing to pay anything between £100 and £1,000 to insure it against destruction by stalling and nose-diving. The owner of a £500 aeroplane might not be able to pay as much as £50 extra on the price for such an insurance. And, writing of insurance suggests that the time may very well come when no insurance company will dream of insuring an aeroplane which is not fitted with slot control.

The Coming Boom.

Altogether we are now on the verge of the first really great development in aviation. Everybody has felt for the last couple of years that a boom in aviation was coming. But the difficulty has been to see the precise thing which was going to make the boom possible. One has felt for long that the slot control was going to do it, but one could not quite see how.

Now the whole thing has happened just like a tumble-over clip locking home. You push and push up to a point and then the thing sits down with a snap. And after that the more you pull the firmer it is.

Superior persons among aircraft designers and aerodynamic scientists have for years past sneered at one's childlike faith in the efficacy of the slot, just as they have sneered at many of one's other beliefs which have come true in the past fifteen years.

So perhaps one may be forgiven for again saying I told you so.—C. G. G.

THE GUGGENHEIM SAFETY COMPETITION.

Mr. Harry Guggenheim, President of the Daniel Guggenheim Fund for the Promotion of Aeronautics, has kindly sent some explanatory notes with reference to certain comments on the regulations for the Safety Competition which appeared in The Aeroplane. Mr. Guggenheim writes :—

I have read with much interest and pleasure your comments on the Safe Aircraft Competition in The Aeroplane for June 15 and June 22. In a previous letter I expressed to you my sincere appreciation of your effort in The Aeroplane to further the object of our Competition and also our gratification at the splendid British entries that have been received to date.

There are certain specific points in your comments which I think should be answered for the information of your readers.

In the June 15 issue you say "supposing a machine were entered on Sept. 1, 1927, and were delivered in New York in March, 1928, would that machine with its pilot and mechanics be expected to remain on the 'designated field' until the closing of the Competition some time after Oct. 31, 1929?"

After the completion of the tests and the awarding of the points, there would be no necessity for the aircraft to remain at the field. The number of points awarded is a sufficient record.

In the June 22 issue you say "That is all right as a test, but for practical purposes there is a vast difference between taking off over a string or a row of balloons in the face of even a slight breeze and taking off over a solid wall of the same height where the wall causes a down-current."

It seems to me that there are very few occasions (certainly in this country) on which a pilot would have to fly over a solid wall. Also since the test is the same for all contestants, it should give a very fair idea of the comparative ability of the aircraft in climbing over obstacles.

Also in the June 22 issue you say "A provision is here made that the elevator control must be moved to its full extent, either backwards or forwards, sufficiently to give a fair test of the stability and then released and the aircraft must return to steady flight in its original attitude within a reasonable time. One imagines that there are some machines which would promptly loop the loop if the elevator control were moved backwards to its full extent."

This is a misunderstanding of the rules, which say "the elevator control to be moved toward its maximum extent" and not "to its full extent." (Signed Harry F. Guggenheim.

A MISSED OPPORTUNITY.

Some time ago in this paper considerable space was devoted to describing the aims and objects of the International League of Aviators, an organisation existing in premises in the Clos Normand, Bois de Boulogne, Paris, at the expense of Mr. Clifford B. Harmon, one of the early American aviators. One was then of the opinion that this organisation had great possibilities as a genuine International organisation for the benefit of professional aviators and more particularly of air-line pilots.

Unfortunately, since then one has been forced reluctantly to the conclusion that the affair is being run on entirely wrong lines which do not seem likely to earn for it the respect and adherence of serious aviators or of the other associations which control aviation. This impression has been given by the way in which the League endeavours to advertise itself. It has taken to sending out News Bulletins "from the Air Service News of the International League of Aviators," which seem to be inspired by minds of much the same quality as those which prevent kinematograph films from holding the position which they might occupy as a serious factor in art and education.

Quotations from a recent batch of these bulletins will indicate the kind of thing to which one refers. The first states :—

Mr. Clifford B. Harmon, President of the League, has announced the appointment of Senor Teodoro Ruiz as the Vice-President in Paris for the South American section, which will comprise eleven States of South America and Mexico. Central America already has its own group, comprising six States. In the South American group, nearly 2,000 members are to be enrolled during the coming two months.

The absurdity of this is evident when one considers that



ALL METAL.—The Bristol Beaver (Jupiter), an all-me tal General Purpose two seater.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

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there cannot possibly be 2,000 aviators altogether in the States mentioned and that anything like a common cause between the said States is about as possible as would be the judging of a cat and dog show in the same ring.

The second says :—

This is a gala season for the International League of Aviators. All of its "aces" are holding the attention of the World with spectacular but well-studied performances; Miss Ruth Elder and Captain George Haldeman, before they started their plucky voyage in the "American Girl," declared that they would enroll themselves as "trans-Atlantic" members of the League immediately upon their arrival in Paris. Although they were compelled to ask for succour from the Dutch tanker *Barendrecht*, they have not altered their allegiance to the League, and their cards, with the League's gold and blue insignia, will be formally presented to them at the Clos Normand in the Bois de Boulogne during the next fortnight . . . . Captain Réné Fonck, back in France for a few weeks, has told the League that its emblem will be worn by the members of the giant Sikorsky's crew when it makes its trans-Atlantic flight next Spring . . . . Progress is also being reported in the British section of the League, in which Sir Alan Cobham, who won the League's trophy for England last year, is one of the most enthusiastic members, and has promised to spread the new gospel of air fellowship during his coming flight across Africa.

Apart from the fact that so far as can be gathered nobody in England takes the least interest in the League, the rest of that paragraph speaks for itself.

The third says :—

A touching tribute has just been paid to the memory of one of Finland's principal "aces," Lieutenant Pukkinens, who died last month in his native town of Nya after a brief illness. Finnish fliers considered for several weeks the best way of commemorating Lieutenant Pukkinens' valour, and finally decided to place above his grave a simple slab of granite surmounted by the trophy of the International League of Aviators, which was attributed to him as Finland's "champion flier" for the year 1926.

In this instance broadcasting such information strikes one as being a little bit like displaying the League's poster on the deceased aviator's coffin.

The fourth bulletin says :—

Air disasters and partial failures of the past few months have in no wise diminished the confidence of Mr. Clifford B. Harmon, President of the International League of Aviators and his associates, in the probability of great progress in both popular and commercial aviation in the immediate future. Certain newspapers in the United States have quoted Mr. Harmon as having said that "something must be done" towards stopping trans-Atlantic flights. Inquiry to-day by a correspondent of the . . . . (*Name of paper not given in the Bulletin.*—C. G. G.) elicited a prompt and forcible denial of any such assertions. "I believe that aviation has now reached its practical stage, and as a pioneer in the field of aviation, I would like to add that it has come much faster than I ever believed it would," said Mr. Harmon.—"Motor manufacture has attained a stage of perfection which leaves little to be desired. But it is only by experiments such as have been carried out by the great firms during the past two years that final success will be achieved. There will be errors, of course, and there will probably be further accidents and disasters, but it has always been upon a few costly losses that real progress has been made. What I do believe should be done, however, is to insist upon thorough inspection of machines before long flights are attempted, and the formulation of at least an elementary code of protection for the pilots themselves. This would not be considered, I am sure, as interference with individual effort, but only as a means of verifying for the benefit of the future just where the errors of the past have to be corrected."

Bad taste, false sentiment, erroneous opinions and platitudinous pronouncements can only prevent this League from having influence among people of good standing in the aeronautical community and without such influence it cannot have any weight in the International councils of Aviation.—C. G. G.

SAFETY DEVICES.

On Oct. 20 Mr. M. L. Bramson delivered at the Royal Society of Arts a lecture on Safety Devices to the Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers. The chair was taken by Colonel the Master of Sempill. This is, one believes, the first occasion since the amalgamation that a member of the Institution of Aeronautical Engineers has read a paper to the combined associations.

Colonel Sempill, introducing Mr. Bramson, said that he was well known as a sky-writer and for his anti-stall gear. He said that he was a prominent member of the Institution of Aeronautical Engineers and had done much to bring the societies together.

Mr. Bramson said that the aeroplane was now definitely past the stage in which its usefulness was limited and hampered by performance. The one great limitation to its usefulness was the danger associated with its use. There were two ways of minimising such danger. One was by using entirely new types of aircraft such as the Auto-Giro, the other was by tackling each kind of accident separately.

Dangers might be divided into those caused by (a) errors of judgment, (b) engine failure and (c) weather. Causes of Service accidents were not published, so the only available statistics were for Civil flying, and for this the figures were so small that they could hardly be called statistics.

He stated most emphatically his belief that concealing the causes of accidents was harmful. The reason for concealing them was reluctance to criticise material and pilots. But he believed that as the knowledge so obtained was bought with the lives and treasure of the community it belonged of right to the public and not to a department of the Air Ministry.

The French statistics for the years 1923-24-25 showed a fairly constant proportion per 100 accidents,—54 being due to errors of judgment, 22 to engine failure, 11 to structural defects, 5 to weather and 8 to causes unknown. The deaths were almost exactly in the same proportion.

Errors of judgment were usually associated with unintentional stalling. Devices had been developed (a) to make stalling impossible, (b) to improve control near the stall, (c) to prevent involuntary stalling while allowing deliberate stalling, (d) to give full control below stalling point.

(a) Included the Rohrbach device which was useless because control was not available when it was wanted.

(b) Included the de Havilland differential aileron which decreased the tendency to stall but was not a remedy for the stalling danger.

(c) Included the Savage-Bramson indicator which tackled the human physiological aspect of the problem and did not affect the aerodynamic characteristics of the machine.

(d) Included the Handley Page slot, which was originally intended to give greater lift, but had been proved when coupled with the ailerons to give complete control after a machine was stalled. The most recent and remarkable development, the automatic operating slot, was not yet ready for "general release." He believed it would prove to be one of the most important aerodynamic advances of the last few years.

Engine failure might be defeated by a multiplication of units.

Fire in the air might be prevented by bulkheads or by automatic extinguishers.

The parachute was the only device able to deal with structural failures or collisions.

Collisions were generally due to a bad field of vision for the pilot and something to remedy this might be done with periscopes.

For fog flying a reliable compass plus turn-indicator was needed and for landing in fog wireless direction-finding, leader cables and television offered fields for research.

THE DISCUSSION.

DR. ROBINSON said that safety devices should be made as automatic as possible. For example, the lights of the Reid indicator could not be ignored. [Here one disagrees. A pilot's eyes may be elsewhere, forcible touch is the best indicator.—C. G. G.] He announced that new light-weight direction finding sets were being produced which could be carried on single-seaters.

MR. HANDLEY PAGE, commenting on Mr. Bramson's origin, complimented Denmark on its production of genius. He referred to the use by the R.A.F. of the Schalovsky-Kupp turn-indicator which was electrically driven and was not affected by air speeds. He claimed that in other ways also it was very simple and superior. Its lights did not depend on contacts, which might go wrong, but on colour filters. Referring to the latest development of the Handley Page Slot, he said that it gave the same control when a machine was stalled as when it was not stalled.

SQ. LDR. COLLISHAW wanted to know if anything had been done with electro-magnets on aerodromes,—presumably to hold machines from rolling after they had landed.

MAJOR STUART said that safety was a question of nearness to the ground. Anti-stall gears must indicate when the machine was stalled when getting off or landing. Periscopes were unsatisfactory. Turn indicators ought to indicate deviations off a course and not merely turns. He suggested a balloon above the clouds to indicate the whereabouts of an aerodrome.

SIR SEFTON BRANCKER said that he was glad that accidents in Civil Aviation provided no statistics. It was not proved that slots gave a better lift, but they certainly did give complete control. He hoped that collisions might be avoided, as the lecturer indicated, by use of a ray of some sort. [One believes, as mentioned in THE AEROPLANE some years ago, that the Admiralty has got some sort of a ray which can be made visible and also made to indicate direction.—C. G. G.]

MR. GREY regretted that the slot had been such a long time developing, and said that he believed that Mr. Handley Page was now the saviour of aviation. He thought that the latest development, the automatic slot, was hard on Mr. Bramson, because it seemed likely to put the stall-indicator out of business.

SQ. LDR. REID said that he had invented his indicator while in Germany. It had been used on air lines since 1922 without ever giving trouble. He held that adjustable contacts and springs could be adapted to suit individual pilots. Vickers Ltd. had now got a new type of his invention which is only four inches square with air speed indicator as well. He had now adapted his indicator to work with a camera for survey work. He hoped to see complete automatic control of aircraft.

COL. SEMPILL said that he feared that the High Authorities still did not believe in safety devices.

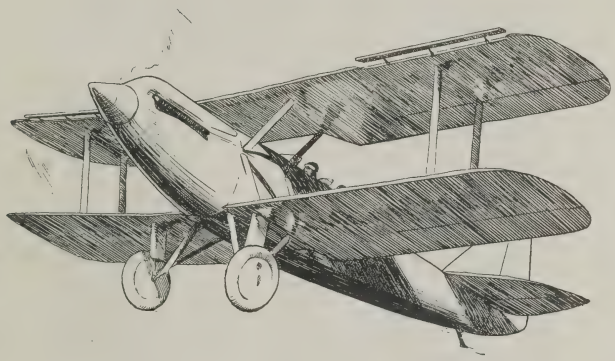
MR. BRAMSON, replying, questioned whether it was desirable to fly in stalled conditions, as when a machine was stalled it actually descended more rapidly than when it was gliding. He thought that there were times when apart from the automatic slot coming into use it was desirable to have a physical indication to the pilot when the machine was on the verge of stalling. [One suggests that Mr. Bramson and Mr. Handley Page had better form an Anti-Stall Trust.—C. G. G.] He thought that fog landing might be made quite safe with use of a leader cable, a listening post and a radio telephone.

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VINCENT NICHOLL.

Lieutenant-Colonel Vincent Nicholl, D.S.O., D.S.C., R.A.F. (retired), died on Oct. 20, at the age of 35, of pneumonia, following an operation in a nursing home. He leaves a wife and four children, to whom, together with his father and sister, all will give their sincere sympathy.

Vincent Nicholl came into aviation as an undergraduate at Cambridge in 1912, where he joined with an enthusiastic trio, Maurice Wright, F. G. T. Dawson, and Kenneth Wanklyn in a gallant, if not highly successful, effort to impress on that University the benefits of flying.

Maurice Wright and Dawson had come together at a Prep. School in their childhood. Wright happened to be a friend of Alec Ogilvie, who in 1909 became the proud owner of a Wright biplane, one of the first aeroplanes in England. Consequently they spent all the time they could at Eastchurch, and with Ogilvie's help and advice took to gliding experiments down the hill at the foot of which the Eastchuch Air Station now stands.

There, in their undergraduate period, Vincent Nicholl accompanied them. And there the four met C. R. Fairey, then working on the Dunne inherently stable biplane, and afterwards works-manager for the Short Brothers. Thus began a friendship which has only been broken by death. And it has had far-reaching influence on British Aviation.

Their days at Eastchurch were joyous, and stories of their joint escapades would fill many pages.

On the outbreak of War in 1914, Nicholl, Wright and Dawson joined the R.N.A.S. on the same day and were sent to Eastbourne, where they were taught to fly by Bernard Fowler and his assistant, Hardstaff, along with a batch of other Probationary Flight Sub-Lieutenants, among whom the names of Huskisson and Douglas Iron are known in the R.A.F. to-day.

Wanklyn, who happened to be away from the flock at the moment, joined the R.N.V.R., served in Gallipoli, later transferred to the Gunners, served with distinction throughout the War, and died of influenza on the day the Armistice was declared. But he kept touch with the others to the end.

On qualifying as pilots Wright and Dawson were sent to the Mediterranean. Thence, after a year or so of strenuous work, Dawson, who was constitutionally delicate, was invalided out of the Service. Thereafter, being like Kipling's Mr. Moorshed, "a young man of awful opulence," he acquired a financial interest in the Fairey Aviation Co., and so continued to do good work in the War. He was the first of the friends to join that organisation.

Wright remained for a long time in a sea-plane carrier, his chief task being to cross Palestine at intervals of a few days, to bomb the Hedjaz Railway on a seaplane which, being unable to climb over the Mountains of Judea, had to be driven through the passes. After he had been transferred to another command, another pilot under another Commanding Officer was awarded the D.S.O. for performing twice or three times an operation of which Wright had made a habit.

Later Wright narrowly escaped death in a burning single-seat seaplane. He survived to be promoted Squadron Leader R.A.F. and after the War he became a prominent member of the Department of Supply and Research at the Air Ministry, where he was particularly concerned with the testing of new types of aircraft.

Vincent Nicholl was sent from Eastbourne to the R.N.A.S. patrol station at Newcastle and thence to Yarmouth. There he served at first under Wing Cdr. de Courcy Ireland (later killed in experimenting with a combined airship and aeroplane arrangement), and afterwards under Wing Cdr. Samson (now Air Commodore).

In the *London Gazette* of June 22, 1916, appears the following citation:—

Distinguished Service Cross:—Flight Lt. Vincent Nicholl, R.N.A.S., and Flight Lt. F. G. D. Hards, R.N.A.S.—In recognition of their services on the morning of April 25, 1916, when they pursued a Zeppelin 65 miles out to sea, dived to within a few hundred feet of it, and attacked it with bombs and darts.

That bald statement covers a very gallant action. In an old B.E.2c of limited range they pursued the airship till they reached a point where if they went on they knew their petrol supply would not take them back. They were gaining on the ship, so they went on. They used up their ineffective bombs and darts, and then sat on its tail pumping bullets into it till their petrol gave out and they had to come down in the sea, where they had the luck to alight alongside one of our own patrol-boats.

Nicholl always hoped that some day he might meet the tail-gunner of that Zeppelin and the officer who stood coolly behind him watching the fight. He said that he knew them quite well by sight. A report at a later date said that owing to being worried up high by this attack the Zeppelin threw out so much ballast that it crashed in landing.

On May 23, 1917, Vincent Nicholl was gazetted Squadron Commander R.N.A.S., and thereabouts took over command of the Yarmouth Station, later becoming a temporary (or acting) Wing Commander, with rank of Lieut.-Colonel, when the R.A.F. came into being on April 1, 1918 and Army rank-titles were assumed.



Vincent Nicholl.

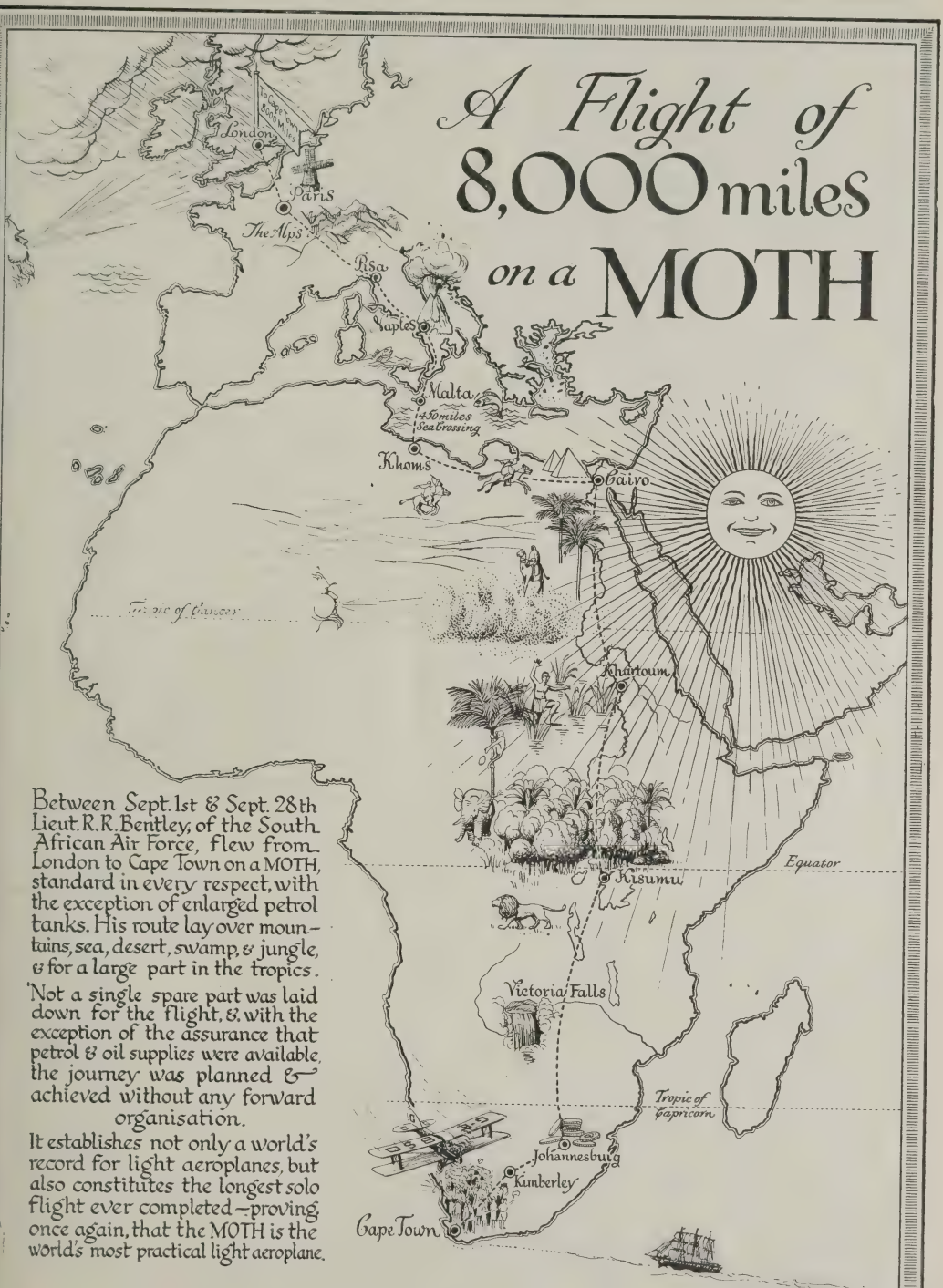
His period of command at Yarmouth was worthy of an epic poem. It was an age of heroes. A history of the Yarmouth Station is now being written, and, from what one has seen of it, one judges that the men of those days—our enemies as well as our own people—will have justice done to them. Among those men, Vincent Nicholl, the Commanding Officer, stands out by reason of his gift of command and leadership as much as by his personal bravery,—and, be it remembered, ability to command, leadership, and individual gallantry are three quite different qualities which seldom meet in one person.

Yarmouth in those days did many duties. It sent patrols of big flying-boats across the North Sea to scout for enemy warships. It supplied escorts for our own coast-wise convoys, and anti-submarine patrols, mounted on land-planes without flotation gear,—which patrols at personal great risk protected our food-ships in daylight up to the ports, outside of which they were left by the Naval port control to be torpedoed in the dark. It supplied fighting machines of sorts for anti-Zeppelin patrols at night.

In all these activities Vincent Nicholl was recognised by his officers and men as first among the first as a pilot and a fighting man. And on the ground they swore by him as the finest possible commanding officer. He was as concerned for the bodily comfort of his people, for their food and housing, as he was for their fighting equipment, their discipline and their moral.

The best-known story of Vincent Nicholl concerns a flying-boat adventure. On patrol in a big boat he saw one of his D.H.9s forced to alight far out at sea. He alighted alongside and picked up the crew—one of whom was Harold Gilligan the county cricketer. He then found that the sea was too rough for the boat to get off again.

Carrier pigeons were sent up. All were lost except one, which fell dead in a Coast-Guard station some miles North of Yarmouth. The message which it carried (Nicholl got hold of it afterwards and had it framed) was telephoned to Yarmouth, and the Naval Command sent ships to look for the boat at the spot indicated—making no allowance for wind or tide. They returned, unable to find anything. After


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The Alps
Pisa
Naples
Malta
150 miles Sea crossing
Khoms
Cairo
Tropic of Cancer
Khartoum
Equator
Kisumu
Victoria Falls
Tropic of Capricorn
Johannesburg
Kimberley
Cape Town
Between Sept. 1st & Sept. 28th Lieut. R.R. Bentley, of the South African Air Force, flew from London to Cape Town on a MOTH, standard in every respect, with the exception of enlarged petrol tanks. His route lay over mountains, sea, desert, swamp, & jungle, & for a large part in the tropics.
Not a single spare part was laid down for the flight, & with the exception of the assurance that petrol & oil supplies were available, the journey was planned & achieved without any forward organisation.
It establishes not only a world's record for light aeroplanes, but also constitutes the longest solo flight ever completed—proving once again, that the MOTH is the world's most practical light aeroplane.
The MOTH is designed and manufactured by
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further delay an R.A.F. officer at the Station, who had his own theories as to the movements of the boat, managed to get permission to pilot a destroyer to the most likely spot on the North Sea.

After a search the ship was turning for home when the flash of an Aldis lamp was caught. The ship turned to the flash, and the flying-boat was found. Nicholl had seen the ship and had attracted her attention.

The flying-boat had then been on the water four days and three nights. A wing-tip float had been smashed by the sea, and one of the crew had to lie out (taking it in turns) on the other wing to keep the un-smashed float on the water. The boat was leaking and had to be constantly baled. An officer had become delirious and had to be kept tied up in one of the cock-pits. Two of the men, worn out by weariness, had tried to mutiny against the constant baling.

By Nicholl's orders the other officers took spells of sleep between baling and lying on the wing-tip. He himself kept constant watch and constant command. And it was he whose watchfulness saved them.

The crew reached Yarmouth at 2 a.m. and most of them went to hospital. Vincent Nicholl took another flying-boat out on patrol at 9 a.m.—He said that he thought it would probably be better for his nerves than lying in bed.

On May 1, 1918, *The London Gazette* published the following citation :—

Distinguished Service Order:—Squadron Commander Vincent Nicholl, R.N.A.S.—For zeal and devotion to duty during the period from July 1, to December 31, 1917.

Few Companions of the Distinguished Service Order have better deserved that honourable appointment.

During his later period at Yarmouth much success was achieved in vanquishing Zeppelins,—as for example the famous Cadbury and Leckie achievement. He had the tact on occasion to turn a blind eye to successful breaches of discipline. There was an instance of an officer, who should have been careering round in an innocuous flying-boat, ousting the gunner from a two-seater and by combined skill and good fortune setting light to an enemy airship, and thus earning much commendation and mild reproof.

Ask anybody who served at or knew Yarmouth under Vincent Nicholl's command and you will get a picture of an Air Station as it should be in time of War.

Towards the end of the War he was put in command of a Wing of the R.A.F. in France, but the Armistice came shortly afterwards, and his subsequent adventures in the War Area, though amazingly humorous, as told by him, are not of public importance.

There was always difficulty in getting Vincent Nicholl to talk about his adventures. But when he did he gave the impression that War consisted of amusing and sometimes annoying incidents inflicted on him for the express purpose of disturbing his love of ease, and that he was obliged to act violently at times to hasten his return to a life of leisure. One has never met anybody who lounged through life so strenuously.

When the fighting was over he left the R.A.F. as soon as he could. He was put on the Unemployed List on May 23, 1919. And then, or thereabouts, he joined his old friends Fairey and Dawson in the Fairey Aviation Co.

He might have had a fine career in the R.A.F., but he said that though War interested him, he did not find Service routine in time of Peace very entertaining. He did not join the R.A.F. Reserve, because, as he said, if there was a War on he would be in it anyhow.

At first he chiefly occupied himself in testing the Fairey machines, and the pre-eminence of the famous IIID., and all those interesting developments in amphibians, were as much the result of his judgment of what a flying-machine should be as they were of the work of the firm's able design staff.

Later, when Mr. Norman MacMillan joined the firm and did the test-flying, Vincent Nicholl took to administrative work, and became Deputy Managing Director to Mr. Fairey. Here he showed the same ability in handling men that he had shown at Yarmouth.

He was not a shop-trained engineer. He had gone straight from Cambridge to War. But whether in the Drawing Office or in the Shops what " The Colonel " said went, before anything else. And he said little, for he was always economical of words.

Apropos which, one remembers an incident at the Amphibian Competition arranged by the Air Ministry in 1920. He was taking the Fairey entry from Felixstowe, where it had been housed at the Seaplane Station, to Martlesham, where it had to land on the Heath, never having put it down except on floats. As he was about to push off alone from the slip-way, two of the Fairey machine-crew asked :—" Please, Sir, how do we get from here to Martlesham ?"—" In the machine," said Nick. And they did.

Whether he landed the machine for the first time with one or three people on board was all the same to him. And taking them with him was simpler than giving directions.

Not only was he a success as an administrator, but he was equally good as a business diplomat. His gentle easy-going manner was so utterly disarming,—and far more convincing than the intensity of the typical " live wire."

A year or so ago Sq. Ldr. Maurice Wright resigned from the R.A.F. and joined the Fairey Company. And so the original flying trio were re-united in a common cause. They made a wonderful team. Each knew his job and did it, as much for the love of the job and for the old friendship as for personal advantage.

Never was there a happier combination. Whenever the team got together it was like the old days at Eastchurch. None of them had lost his undergraduate outlook. Without ever losing sight of the seriousness of their work, it never ceased to be for them a joyous adventure.

Nobody can ever fill Vincent Nicholl's place. All they can do is to close up the ranks, and carry on as he would have wished.

Those of us who had the honour of Vincent's friendship knew him as one of the most patient, gentle and generous of men. He thought nothing of himself. All his thoughts were for his men, or for his friends, or for his family.

When Vincent was going to the operating theatre—the last time he was seen as his normal self—he turned to one of his friends, who was there to wish him luck, and gave him that queer little humorous half-salute which was a characteristic trick of his. The action was typical. He went to the great adventure with the same jesting gallantry that had carried him through life.

There is purpose in everything in the Great Scheme. So there is good reason why Vincent Nicholl should die just when a life already so full of good work seemed likely to develop into something truly great. We, his friends, cannot see that reason. We can only accept it.—C. G. G.

A Service Tribute.

One who served at Yarmouth writes :—

" May I express the deep sorrow of the Officers and men of the Great Yarmouth Air Station at the death of Col. Vincent Nicholl ?

" During the long period he was associated with the station he endeared himself to the hearts of all, not only by his skill and ability as a pilot, which were of the highest order, but also by his fairness and kindness to everyone, as well as his indomitable courage.

" It was this spirit of bravery tempered with an exceptionally fine judgment that made him one of the finest leaders of men that the country produced.

" Aviation as a whole and the Fairey Aviation Co. in particular have lost a great man, and it is to his widow and children as well as to all those connected with him that I, on behalf of late Gt. Yarmouth Air Station, tender the most sincere sympathies.

(Signed) " South Denes."

CHARLES M. MANLY.

By the death of Mr. C. M. Manly—which occurred at Long Island, N.Y., on Oct. 17—the World loses one more of those early pioneers of aviation whose work was never crowned with the success to which it now seems to have been entitled by its merit.

Born in 1876, Mr. Manly, after graduating as a mechanical engineer from Cornell University in 1898, joined the staff of the late Professor Langley at the Smithsonian Institute. At this time Professor Langley was engaged on the design and construction of his now well-known " Aerodrome,"—as he called his flying machine.

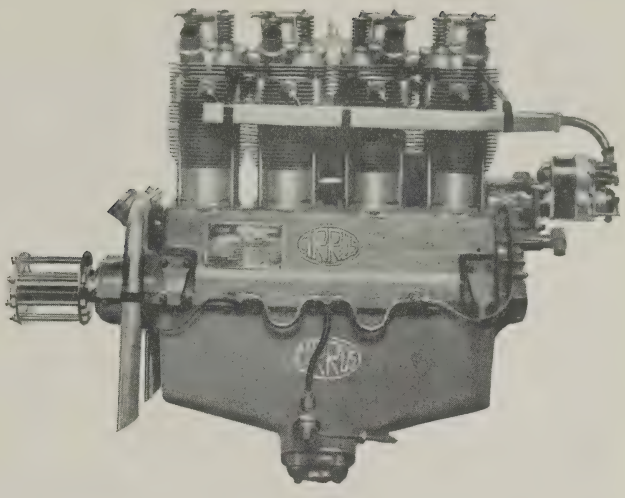
After many unavailing efforts on Langley's part to obtain from the motor-car constructors of that day a reasonably light and powerful petrol engine for the propulsion of this early aeroplane, Mr. Manly himself undertook the design and construction of an engine, and he produced at the end of 1901 an engine which was to remain for many years the lightest power plant in existence.

This was a five-cylinder water-cooled radial petrol engine which developed 52 b.h.p. at 950 r.p.m. for a dry weight (including two fly-wheels) of 140 lbs.

As this engine successfully ran a " type-test " of three ten-hour non-stop runs at this speed and power it was obviously a very much more reliable engine than many later engines which flew successfully. Moreover this identical engine actually flew the original Langley machine successfully when rebuilt by Mr. Curtiss.

In addition to his work as designer and constructor of the engine, Mr. Manly acted as pilot on the two unsuccessful attempts to fly Prof. Langley's machine (October and December, 1903). Both attempts came to grief, probably because of structural failure of the machine itself, but certainly not because of any failure of the engine. After the second failure

CIRRUS



"CIRRUS" AERO ENGINE

AGAIN SUCCEEDS.

TELEGRAM.

Handed in at CAPETOWN.

AIRDISCO.

Engine ran faultlessly throughout flight. Healthy exhaust note inspired peace of mind over sea and forest.

Returned Pretoria via east coast making total mileage 9,000 approximately.

BENTLEY.

A telegram reading as above was received from Lt. R. R. Bentley, on completion of his record solo flight of 8,000 miles, LONDON to CAPETOWN in a "CIRRUS-MOTH," and further endorses the record for reliability possessed by his engine.

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Prof. Langley's aeronautical work came to an end owing to lack of funds.

Mr. Manly thereafter became associated with the American Automobile Industry, and his ingenuity and practical ability were displayed in numerous successful inventions concerning motor vehicles and their equipment.

During the earlier years of the War he acted in a consultative capacity for the British Government in connection with the purchase of aircraft and aircraft material in the States.

He was consulting engineer to the Curtiss Aeroplane and Motor Corporation from September, 1915, to May, 1919, and assistant general manager of that same firm from May, 1919, to February, 1920. From the beginning of 1921 he was senior partner of the firm of Manly and Veal, Consulting Engineers.

AS IT WAS IN THE BEGINNING.

["The Old Flying Days." By Major C. C. Turner. 374+x pages. 40 half-tone illustrations. Sampson Low, Marston and Co. Ltd. 25s. net. Supplied by The Aeroplane Book Dept., 14, Bream's Buildings, E.C.4.]

This is a book which is badly wanted at the moment. One cannot say that it fills a long-felt want for only within the last two or three years, since the World began to grow air-minded, has there been a need for such a book. But now it appears at precisely the right moment. It will remind all the old timers of those extremely comic and at the same time emotioning days of Sheppey, Larkhill, Brooklands and Hendon, and even more remote experimental grounds such as Camber and Dagenham (it omits Fambridge), and it will show the younger generation quite vividly what the pioneers of aviation did towards producing the machines on which they now disport themselves with such facility.

Few people are better qualified than is Major Turner to write such a book of reminiscences. He has been in the game from the earliest days. He was a notable balloonist long before anybody flew an aeroplane, at any rate in this country. His certificate as an aviator is No. 70 and is dated April 25, 1911, and from those early balloon days of his he has been continually writing about flying.

During the War he served with the lighter-than-air branch of the Naval Air Service, and later the R.A.F., as a balloon instructor, so that he has a long and wide experience of all phases of aeronautics. Also he is a most assiduous person and has kept voluminous notes of all his experiences.

The book is essentially for the non-technical. Major Turner very wisely omits all discussion or argument on technical development and takes for granted, as he is justified in doing in these days, the fact that everybody knows the difference between a monoplane and a biplane and knows why an aeroplane gets off the ground and stays there,—which, incidentally, was not well known to the majority of the pioneers of aviation of whom he writes in the early part of his book.

Nor is the book an attempt to compile a complete history of the early development of flying in Great Britain. As Major Turner modestly says, that would be a task beyond his powers. One endorses his hope that Mr. J. E. Hodgson, the compiler of that monumental *History of Aeronautics in Great Britain* will undertake the task.

Major Turner himself says that he seeks only to recall the spirit, the atmosphere, of the first phase of practical flying in this country and even then only to the extent of his personal association with it and with the men who made it. The book, in fact, takes one back to the early experiments of such people as A. V. Roe, S. F. Cody, the Shorts, the Barnwell Brothers, de Havilland, Handley Page, Howard Flanders, Howard Wright, McClean and other genuine pioneers, and carries on as far as the days when Hendon and Brooklands were great show places just before the War and flying was, at any rate, a popular spectacle, though at that time it did not promise to be a popular method of transport as it does to-day.

The old timers will not only meet again in the book many of the friends of their pioneer days, but they will be reminded of the existence of quite a lot of people whose names they have forgotten although they knew them very well when they laboured together in the sheds at Eastchurch or Brooklands or Hendon. And it is quite amusing to see how some of the people whom we have almost forgotten have become quite important in entirely other directions.

The photographs are no less interesting than the story. People in the R.A.F. will be tickled to death to see what Eastchurch looked like in 1911 when we thought it was the last word in aerodrome and factory lay-out. And much funnier is the photograph of Howard Wright's first aeroplane factory in a railway arch next door to the Dog's Home, at Battersea.

Those who think that flying meetings have been invented within the last five years will get something of a shock when they read the list of prizes presented at Hendon during the seasons 1912-1913. One doubts whether the total value of the prizes won in 1927 is as great.

Students of modern aircraft design will also find a lot to interest them in photographs of the old machines. Some of them are so modern in appearance that it is quite difficult to understand why they had not a better performance. Only a study of aerodynamics can solve the puzzle. Also there are many freaks, contemporary with those modern-looking machines, which will equally make the reader wonder how on earth anybody was crazy enough to build them.

The worst fault one can find with the book is a certain sloppiness in editing, but after all, Major Turner has been a journalist for so long that one cannot expect in his book the accuracy of a War Office document. One certainly is irritated a little at finding in one paragraph an officer of the early days given the rank of Air Commodore (a rank which did not exist till ten years later) while in the same paragraph one of his contemporaries is called a Commander. Quite a number of those early aviators are given the ranks which they hold to-day, though at the time they had not the slightest intention of ever wearing a uniform, while others in the same tale or paragraph appear with the title which they bore at that time.

Also there are naturally certain historical errors and misspelling of names. And some people who had great influence on aeronautical history are not even mentioned. But that is natural because from his particular angle Mr. Turner (as he then was) did not come in touch with their acts or outlook. All that can be forgiven for the memories which the stories will revive and for the very clear impression the book gives of what aviation was like in the old flying days.

The volume is beautifully printed on paper which soothes the eye as one reads, and the pictures are excellently produced, so altogether it is very good value at the price.—C. G. G.

STANDARDISED DRAWING PRACTICE.

["British Engineering Standards Association Publication No. 308—1927. British Standard Engineering Drawing Office Practice. Sept., 1927." Price 2s. net, Post Free 2s. 2d. from The Aeroplane Book Dept., 14, Bream's Buildings, E.C.4.]

British aircraft designers and manufacturers are necessarily familiar with the work of the British Engineering Standards Association, because the specifications covering aircraft materials officially approved by the Air Ministry are actually B.E.S.A. specifications.

The field covered by the work of the Association covers however a field very much wider than that of aeronautical engineering, and a great majority of the specifications and so forth issued by the British Engineering Standards Association have very little direct bearing on the business of providing aircraft.

B.E.S.A. publication No. 308—1927, British Standard Engineering Drawing Office Practice, has, however, a particular importance for the Aircraft Industry. Aeroplane construction forms but a very small proportion of the total constructional work of the British Engineering Industry, but it involves an amount of drawing office work which is out of all proportion to the volume of actual production.

Engineering drawings are essentially highly conventionalised and in the absence of standardised conventions there is obviously room for wide diversity in the methods which may be used to depict similar objects, and there are in fact differences between the practice of different drawing offices within the Aircraft Industry.

The present report specifies a certain number of standard overall sizes for the sheets on which drawings are prepared, and standard positions for the position of the Drawing Number, Firm's Name, etc. It also recommends standard methods of projection, certain definite types of line and of cross-hatching for use for particular purposes, standard positions and attitudes for dimension figures, methods of maintaining different materials, different types of finish, and gives a list of standard abbreviations recommended.

The specification does not seem to impose any unnecessary restrictions on the flexibility of drawing office methods, but it does lay down a certain number of useful standard conventions which can with advantage be followed in all cases.

THE ROYAL AERONAUTICAL SOCIETY.

(Incorporating The Institution of Aeronautical Engineers).

At a joint meeting of the Royal Aeronautical Society and of the Institution of Automobile Engineers, to be held at the rooms of the Royal Society of Arts, 18, John Street, Adelphi, at 7.45 p.m. on Thursday, Nov. 3, Mr. H. B. Taylor will read a paper on High Speed Compression Ignition Engine Research.



Boulton & Paul
Aircraft
NORWICH, ENGLAND

THE ROYAL AIR FORCE.

The London Gazette.

Oct. 18.

General Duties Branch.—The following are granted S.S. comns. as Plt. Offs. on probation with effect from and with seniority of Oct. 3:—M. H. Clare, A. G. Lester. The following Plt. Offs. are promoted to the rank of Flg. Off.:—E. B. Steedman (July 12); R. A. Barnett, I. J. Fitch, R. J. Legg, A. A. Leslie, N. McLeod, R. R. Nash, N. C. Pleasance, E. F. Wain (Sept. 13).

Flg. Off. J. W. Stokes is transferred to the Stores Branch on probation (Oct. 15); Flt. Lt. E. D. H. Davies is placed on the half-pay list, Scale B (Mar. 25 and 26).

The following officers are transferred to the Reserve:—Flt. Lt. G. E. Newton, Class A (Oct. 18); Flg. Off. G. S. Smith, M.B.E., Class C (Oct. 18). Plt. Off. J. G. Foreman relinquishes his S.S. comn. on transfer to the Royal Australian Air Force Reserve (Oct. 10); Flg. Off. C. V. Williams resigns his S.S. comn. (Oct. 19).

Accountant Branch.—The following Flg. Offs. are transferred to the Reserve, Class C (Oct. 22):—C. W. Cackett, C. P. Puckridge.

Medical Branch.—Flg. Off. B. L. Edwards, M.B., is granted a perm. comn. in this rank (Oct. 19); Flg. Off. H. Penman, M.B., is promoted to the rank of Flt. Lt. (Oct. 8).

Reserve of Air Force Officers.—General Duties Branch.—Flg. Off. W. E. L. Courtney is transferred from Class A to Class C (Apr. 20). The comns. of the following Plt. Offs. on probation are terminated on cessation of duty:—Class A.A.—G. B. Falconar (Sept. 28); B. P. W. Twist (Sept. 28). Special Reserve.—W. Hislop (Oct. 18). Stores Branch.—Flt. Lt. H. S. Alger relinquishes his comn. on completion of service, and is permitted to retain his rank (Sept. 12); Flg. Off. E. G. Steer relinquishes his comn. on completion of service (Oct. 11).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Off.:—No. 603 City of Edinburgh (Bombing) Squadron.—J. H. Flynn (July 25).

Appointments.

Week ending Oct. 24.

General Duties Branch.—Squadron Leaders J. Everidge, M.C., to No. 4 F.T.S., Egypt, 27/9. J. M. Robb, D.S.O., D.F.C., to C.F.S., Wittering, 19/9. E. G. Hopcraft, D.S.C., to No. 14 Sqdn., Palestine, 26/9. F. G. D. Hards, D.S.C., D.F.C., to R.A.F. Staff College, Andover, 19/9. C. G. Burge, O.B.E., to R.A.F. Depot, Uxbridge, 3/10. C. E. W. Foster, to R.A.F. Depot, Uxbridge, 3/9.

Flight Lieutenants A. S. Ellerton, O.B.E., to C.F.S., Wittering, 10/10. W. Elliot, D.F.C., to R.A.F. Depot, Uxbridge, 14/10. A. G. Thackray, to R.A.F. Depot, Uxbridge, 3/9. V. Buxton, O.B.E., to No. 47 Sqdn., Middle East, 21/7. V. R. Gibbs, D.S.C., to No. 11 Sqdn., Netheravon, 7/10. G. E. Gibbs, M.C., to Air Ministry, Department of the Chief of the Air Staff, 3/10.

Flying Officers T. C. Penna, to Armament and Gunnery School, Eastchurch, 17/10. C. Guppy, to R.A.F. Depot, Uxbridge, 12/10. L. E. Maynard, to R.A.F. Depot, Uxbridge, 23/8. G. H. C. Ingle, to Armament and Gunnery School, Eastchurch, 19/10. E. B. Forster, to No. 22 Sqdn., Martlesham Heath, 29/10. D. L. G. Bett, to H.Q., Middle East, 3/10. L. L. King, to R.A.F. Base, Calshot, on appointment to a S.S. Comn., 17/10.

Pilot Officers R. F. Part, to No. 7 Sqdn., Worthy Down, 17/10. N. A. Pearce, to No. 7 Sqdn., Worthy Down, on appointment to a Perm. Comn., 24/9. H. F. Gower, to No. 111 Sqdn., Duxford, 12/10.

Medical Branch.—Flying Officer J. D'I. Rear, to R.A.F. Depot, Uxbridge, 30/9.

Stores Branch.—Flight Lieutenants W. A. O. Honey, to School of T.T. (Men), Manston, 26/10. W. G. MacD. Nicholl, to H.Q., Cranwell, 10/10.

Flying Officers F. C. Griffin, to Aeroplane and Armament Exper. Estab., Martlesham Heath, 10/10. A. E. Evans, D.F.C., to R.A.F. Base, Gosport, 1/10. G. J. Gaynor, to No. 4 Stores Depot, Ruislip, 31/10. F. E. R. Dixon, M.C., to No. 4 Stores Depot, Ruislip, 18/10. A. J. Cox, M.B.E., to Record Office, Ruislip, 21/10. J. W. Stokes, to H.Q., Cranwell, 15/10.

Pilot Officers B. Allen, O. D. Allerton, M. E. O'B. Atkinson, H. J. Butler, A. Connock, C. J. Cousins, C. M. P. Hartley, T. A. Head, D. G. McDiarmid, M. M. McMullan, H. W. Penney, E. F. Smith, C. L. Thompson, C. Thripp and H. A. Wrigley, to H.Q., Cranwell, on appointment to Perm. Comns. (on probation), 15/10.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident at Leuchars to a Fairey III.D machine of R.A.F. Training Base, Leuchars, on Oct. 20, Flg. Off. William Harvey Osborne Rumfitt, the pilot of the aircraft, was killed. No. 364080 Aircraftman Herbert William Furness and No. 364328 Aircraftman Francis William Tomlinson, passengers in the aircraft, were seriously injured.

The Air Ministry regrets to announce that 364328 AC.1. Francis William Tomlinson died of his injuries on the evening of the same day.

The Far East Cruise.

The Service Flying-Boat Cruise to the Far East which left Cattewater, Plymouth, on Oct. 17 under the command of Group Capt. H.M. Cave-Browne-Cave, D.S.O., D.F.C., reached the Etang de Berre, Marseilles, at 13.00 hours on Oct. 19.

The Flight left the Etang de Berre at 08.00 hours on Oct. 21 and arrived at the Royal Italian Seaplane Base at Nisida, near Naples, at 15.00 hours on the same day.

The Auxiliary Air Force.

The Esher Trophy, which is awarded annually to the Squadron of the Auxiliary Air Force which has attained the highest all-round efficiency during the year, has been awarded this year to No. 605 (County of Warwick) Bombing Squadron.

The Trophy was presented to the Squadron at Castle Bromwich Aerodrome on Oct. 20 by the Rt. Hon. Sir Samuel Hoare, Secretary of State for Air.

No. 605 (County of Warwick) Squadron is commanded by Sq. Ldr. J. A. C. Wright, Auxiliary Air Force.

Qualified Interpreters.

The Army, Navy and Air Force Gazette of Oct. 20 states:—

Names are published of the officers and airmen who passed the examinations in June, 1927, at the various centres, for qualification as interpreters. In London, those who passed the preliminary examination in French were Flt. Lt. R. R. Greenlaw, M.B.E., Flg. Off. (now Flt. Lt.) A. H. H. MacDonald, and Plt. Off. J. C. Cunningham. Flg. Off. R. J. Montgomery-Moore requalified as interpreter, first class. In German, Flt. Lt. C. Crawford qualified as interpreter, second class; and Flt. Lt. C. F. Horsley, M.C., qualified as interpreter, second class, in Arabic.

At the examination at Baghdad, 'Iraq Command, Flg. Off. V. Harris, of the Armoured Car Wing, and F. W. Udell, L-AC., passed the test in Arabic. Sq. Ldr. K. C. Buss, Air Staff Officer for Intelligence duties, passed the preliminary examination in French.

The R.A.F. in 'Iraq.

The Times of Mesopotamia of Oct. 2 states:—

There are many rumours about regarding further reductions in the strength of the Royal Air Force out here. I have heard that the number of squadrons is to be reduced to three, two of which will be stationed in Baghdad and one in Mosul. It is said that 84 Squadron will be sent to India and that the Shaibah aerodrome will only be used as a landing ground.

I have just heard, too, that all surplus Service buildings at Basrah, Makina and Shaibah will be disposed of by-and-bye, and only a small detachment of the Air Force kept on.

There are five Squadrons of the R.A.F. at present stationed in 'Iraq; No. 55 and No. 70 at Hinaidi, No. 6 at Mosul, No. 30 at Kirkuk, and No. 84 at Shaibah.

The Helpful R.A.F.

The following extract from a letter from Baghdad may interest German as well as British readers:—

Only a few days ago a German kite called "Germania" landed here after a bit of adventure between Constantinople and Aleppo. On trying to take off with too heavy a load for Bundar Abbas the pilot was compelled to land again, and in doing so crashed his tail unit, damaged an aileron and smashed a wheel. He was lucky it happened here.

He expressed his delight when we fixed up the Lord knows what, saying that nowhere else between Cologne and San Francisco could he have received such expert assistance, and he would in all prob-



SHORE LEAVE.—One of the Supermarine Southamptons (Napiers) of the Far East Flight on the handily detachable beach-carriage on which the machines are launched and brought ashore.



ARMSTRONG SIDDELEY

Covers the whole Field of Flying.

The Armstrong Siddeley air-cooled radial engines range from 65 h.p. to 425 h.p., and in units, duplicate or triplicate form, cover all types of aircraft.

Each engine is a thoroughly tested and standardised production.

The design of these engines, and therefore their methods of maintenance, are similar.

Many of their parts are interchangeable, so that in cases where different types are in use the stock of spares can be reduced to a minimum.

Experience gained in the operation of one engine is experience gained in the operation of the others.

LYNX SUCCESS on *Amsterdam—Batavia Flight*

Lt. Koppen, Dutch Army Pilot, has flown from Amsterdam to Batavia on a Fokker F.VII machine fitted with three Lynx engines.

He cabled:

"HEARTIEST CONGRATULATIONS ON FINE PERFORMANCE LYNX ENGINES ON RECORD MAIL FLIGHT AMSTERDAM—BATAVIA TEN DAYS OF WHICH NINE FLYING DAYS DISTANCE 15,000 KILOMETRES."

Flown and Known all over the World.

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A 41

ability have been forced to abandon the flight. The crew went nearly crazy with delight and eventually took off for Shaibah.

The whole affair was the most rottenly organised job I have seen for years. They landed here with no topees and not a single spare of any sort. The engine (a 6-cylinder straight Junkers) was overheating badly and had no tropical radiator. Our fellows made some fluting in the top of the cowling and this seemed to improve things a bit.

The Great Yarmouth Dinner.

The Eighth Annual Re-Union Dinner for officers and ex-officers who served at the Great Yarmouth Air Station will be held at the Café Royal (Regent Street entrance), on Saturday next, Oct. 29, at 7.30 for 8 o'clock.

Application for tickets (15s. 6d. each, exclusive of wines) should be made to G. F. H. Bloom, 17, Welbeck Street, London, W.1.

The Royal United Service Institution.

The programme of Lectures to be given before the Royal United Service Institution includes several Lectures which will be of special interest to members of the Flying Services of all Nations. They are :—

Nov 2.—*Commercial Air Routes*, by Air Vice-Marshal Sir Sefton Brancker, K.C.B., A.F.C., Director of Civil Aviation.

Nov. 9.—*A Mechanised Formation*, by Col. C. N. F. Broad, D.S.O., *p.s.c.*

Dec. 7.—*Air Power and its Application*, by Group Capt. W. F MacNeece Foster, C.B.E., D.S.O., D.F.C.

Jan. 11, 1928.—*The Modern Staff Officer*, by Maj.-Gen. Sir W. E. Ironside, K.C.B., C.M.G., D.S.O., General Officer Commanding 2nd Division, Aldershot.

Feb. 1.—*Aircraft in Small Wars*, by Wing Cdr. R. H. Peck, O.B.E., *q.s.*

Feb. 8.—*Chemical Warfare*, by Major Victor Lefebure, O.B.E.

Feb. 29.—*Meteorology and the Fighting Services*, by Cdr. L. G. Garbett, R.N.

Each Lecture begins at 15.00 hours.

By the Rules of the Institution members have the privilege of introducing two friends either personally or by presentation of visiting card at each Lecture.

THE SUPERMARINE S.5.

Official sanction has been given by the Air Ministry to the Royal Aero Club, the Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers, and the Air League of the British Empire, for the exhibition of the Supermarine S.5 (Napier engine) on which Flt. Lt. Webster, A.F.C., won the Schneider Trophy, on the Horse Guards Parade.

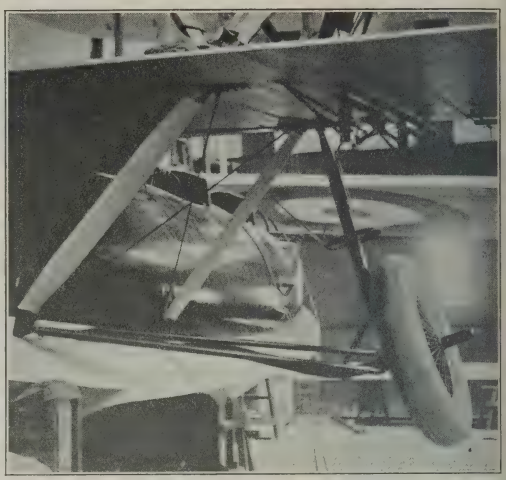
The machine is being loaned by the Air Ministry to these three bodies, who will be jointly responsible for its public exhibition, early in November.

In the meantime all will hope that the Supermarine will beat the World's Speed Record, and advertise our aircraft to the World, before being made ino a Cockney peep-show.

THE WORLD'S SEAPLANE SPEED RECORD?

The Rome correspondent of *The Chicago Tribune* reports that on Oct. 22 Major Mario de Bernardi, flying over a measured 6-kilometre course at the Lido, Venice, averaged 485 km.p.h. (301.185 m.p.h.) in four runs, two in each direction, on the Macchi 52 monoplane (800 h.p. Fiat engine) on which he competed in the Schneider Trophy Race.

The report adds that the flights were observed by officials of the F.A.I.



THE SOUTHAMPTON BEACH-CARRIAGE.—Showing how the three tubular members of the carriage lock to the bottoms of the two wing-and-hull struts and up to the top of the front strut, thus making a pyramidal structure. The hand-wheel on the vertical telescopic member lengthens or shortens it like a jack, and so raises or lowers the hull.

At the time of going to press no confirmation of this report has been obtainable.

The speed stated is about what one believes the speed of the Macchi to be, so one does not suggest that there is any error in the statement.

A PROPAGANDIST TOUR.

Oct. 23 Colonel Charles Lindbergh returned to Mitchel Field, Long Island, N.Y., in the Ryan monoplane "Spirit of St. Louis" on the completion of a three months' tour of every State in the Union, during which it is estimated that 30,000,000 people saw him or heard his addresses. This flight was sponsored by the Daniel Guggenheim Fund for the Promotion of Aeronautics as a means of popular propaganda.

During the tour Col. Lindbergh made 82 stops and was the victim of 69 official dinners, 150 speeches and more than 1,200 miles of parades.

He reported that his aeroplane was in perfect condition, and that his engine, which had now flown for 355 hours, including the flights from San Diego to New York and New York to Paris, was good for many more hours before overhaul. He said he found people everywhere genuinely interested in aviation, and that all cities were building municipal airports.



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PARIS—BUENOS AIRES.

On Oct. 20 M. Costes and *Lieut. de Vaisseau* Le Brix arrived at Buenos Aires on their Breguet XIX biplane (500 h.p. Hispano-Suiza engine), after having flown from Paris (12,000 kilometres) in six flying days.

They left Paris on Oct. 10 and reached St. Louis, Senegal (4,800 kms.), on the following day in a non-stop flight.

On Oct. 14 they left St. Louis and flew to Natal, Brazil (3,100 kms.), thus making the first direct flight across the South Atlantic.

On Oct. 16 they flew from Natal to Caravellas (1,400 kms.), on the following day from Caravellas to Rio de Janeiro (750 kms.), and on Oct. 19 from Rio de Janeiro to Pelotas (1,400 kms.).

Finally on Oct. 20 they flew from Pelotas to Buenos Aires (600 kms.) where they were received with acclamation by the assembled multitude.

On Oct. 18 it was announced that the French Minister of War had recommended the promotion of M. Costes to the rank of *Officier* of the *Légion d'Honneur* in recognition of the first direct crossing of the South Atlantic.

After resting (?) for a few days MM. Costes and le Brix will undertake a grand tour of all the big South American cities in the interests of French Aviation.

PARIS—SAIGON.

On Oct. 11, Capt. Challe and Sergeant Rapin left Villacoublay on a Potez XXV (450 h.p. Lorraine-Dietrich geared engine) to fly to Saigon, where they arrived on Oct. 20 after having covered 12,000 kms. in 10 days.

The following is their itinerary :—Oct. 11, Villacoublay—Rome (1,100 kms.); Oct. 12, Rome—Athens (1,100 kms.); Oct. 13, Athens—Aleppo (1,200 kms.); Oct. 14, Aleppo—Basra (1,100 kms.); Oct. 15, Basra—Bunder Abbas (1,000 kms.); Oct. 16, Bunder Abbas—Karachi (1,000 kms.); Oct. 17, Karachi—Allahabad (1,500 kms.); Oct. 18, Allahabad—Calcutta (750 kms.); Oct. 19, Calcutta—Bangkok (1,900 kms.); Oct. 20, Bangkok—Saigon (750 kms.).

BATAVIA—AMSTERDAM.

On Oct. 17 Lieut. Koppen, Mr. Fryns and a mechanic, who between Oct. 1-10 flew from Amsterdam to Batavia on a Fokker F.VII-3m. (three 185 Armstrong-Siddeley Lynx engines), left Batavia to return to Amsterdam with the Dutch Indies mail consisting of 3,000 postcards and 1,300 letters. He arrived at Singapore on the same day.

On Oct. 18 they left Singapore for Bangkok but in landing at the latter place he damaged his undercarriage.

On Oct. 21 he flew from Bangkok to Calcutta in a single non-stop flight.

On Oct. 22 he reached Karachi.

On Oct. 23 he left Karachi for Bunder Abbas.

CROYDON—AUSTRALIA.

On Oct. 21 Mr. W. N. Lancaster and Mrs. Keith Miller, who are attempting to fly to Australia on an Avro Avian (32/80 h.p. A.D.C. Cirrus II engine), reached Catania, Sicily, from Naples.

On Oct. 22 they flew from Catania to Malta.

On Oct. 23 they reached Tripoli from Malta, having crossed the Mediterranean without trouble.

A STATIONARY HEIGHT RECORD.

The Royal Aero Club announce that the height attained by Mrs. S. C. Eliott-Lynn (now Lady Heath) on Oct. 8 on the Avro Avian was 5,268 metres. This height is exactly the same as that accomplished by the Hon. Lady Bailey on a D.H. "Moth" on July 5 last. The Altitude record for the Two-Seater Class Light Aeroplane is therefore still retained by the Hon. Lady Bailey.

A FRENCH-CANADIAN ACCIDENT.

On Oct. 18 an F.B.A. flying-boat belonging to the Compagnie Aérienne Franco-Canadienne left Gaspé, Quebec, to fly to Val Brillant, a distance of 75 miles. It was piloted by the Comte Jacques de Lesseps, who was accompanied by a mechanic.

On Oct. 22 the wreckage of the machine was found at Sandy Bay, in the St. Lawrence River, 45 miles from Val Brillant, but no trace has been seen of the occupants, both of whom are presumed to have been drowned.

The Comte de Lesseps, who was the son of the late Comte de Lesseps, famous for his work on the Suez and Panama Canals, was one of the earliest French aeroplane pilots and was, one believes, the second man (after M. Blériot) to cross the Channel by air.

He proceeded to Canada in charge of the Cie Aérienne Franco-Canadienne on its formation in Montreal two years ago. This company has undertaken a considerable amount of aerial survey and photography work for the province of Quebec.

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THE BIGGEST YET.

It has for some time been an open secret that the Beardmore Inflexible, the enormous three-engined monoplane which has been under construction to the order of the Air Ministry for at least the past four years, is now nearly ready for her preliminary trials at Martlesham Heath.

It is not possible as yet to give any very complete information concerning this aircraft. It is however an open secret that the Inflexible is built entirely of metal, mostly Duralumin, to a design inspired in the first instance by Dr. Rohrbach and developed by Beardmores Ltd. It is fitted with three Rolls-Royce Condor engines (700 h.p. each) and it is by far the largest aeroplane yet constructed.

The Inflexible has a span of approximately 140 feet and is designed to fly at an all-up weight of some 40,000 lbs. So far as one can discover the maximum all-up weight of any previous aircraft that has successfully flown has been not more than 32,000 lbs. Without exact knowledge, the wing-loading cannot be given, but in the original Rohrbach scheme it was about 22 lbs. per sq. ft.

The design and construction of very large aeroplanes present very difficult problems indeed. If a normal aeroplane is taken as a model and merely increased in dimensions, then the weight of the aeroplane structure itself increases very much more rapidly than does the total load which that structure can safely carry. Within certain limits this difficulty may be overcome by the more efficient use of material which becomes possible as the size of the machine increases.

Moreover as large machines in general cannot be so manœuvrable as are smaller machines, a certain reduction in the load factors, or margin of strength, is permissible.

There are practical limits to the extent to which one may proceed to increase the size of aeroplanes by the use of either or both of these expedients, and it seems that this limit has already been reached. To pass, as the Inflexible passes, to still larger sizes demands either a new type of structure, or new aerodynamic qualities.

As is well known, Dr. Rohrbach has for long maintained that the only rational method by which practical aeroplanes of greatly increased size could be produced called for a progressively increasing wing loading as the size of the aeroplane increased.

It is understood that the Inflexible, as it actually exists, is very much more a Beardmore than a Rohrbach design, but there is good reason to believe that in essentials it is a logical development of ideas inspired by that designer.

The results of tests on this machine will be awaited with great interest by the aircraft designers of the World. It is very generally believed that a land machine of this size and of so heavy a wing loading will prove to be impossible to operate because of the difficulties of safely taking off and landing so vast a machine at so high a speed, but whatever view one may take as to this particular matter it is well that the question should be settled by practical test.—W. H. S.

AIR TRANSPORT IN CANADA.

A visitor from Canada recently deposited in the office of The Aeroplane a copy of *The Patricia Herald* of Aug. 27, 1927. This journal is published at Sioux Lookout, Ontario, which is described as "the hub of Ontario's North Western Goldfield," and incidentally is the operating base of Western Canada Airways Ltd. and of the Patricia Airways.

The leading article in this particular issue deals with the Air Service to the Red Lake Country. Readers of the special Canadian number of The Aeroplane (May 11, 1927) may remember that the Red Lake District though only a short distance North of the two main railway lines across Canada has but recently emerged from the entirely unexplored state largely thanks to the results of aerial survey.

Although it has long been known that gold existed in the district, difficulties of transport retarded development, and it is very largely due to the coming of air transport that its real riches have become properly known and are now in course of vigorous exploitation. The alternatives to air transport between the Red Lake district and the rail are canoes in Summer and dog trains in Winter.

The leading article mentioned voices a vigorous protest against the shortcomings of Western Canada Airways and the Patricia Airway. It says :—

"To an extent not credible five years ago travellers have become wholly dependent on the air service. But within the last two weeks letters from Northern Mining Camps have reached us expressing indignation at the off-handed manner in which mining men and their companies are being treated by both Air Services. Transportation contracts are not being fulfilled. Much time and money is being lost."

Yet *The Patricia Herald* says : "Patricia Airway's Lark, the greatest flying machine in the North, throbs the heavens almost night and day, the enduring pilots risking their lives through rain and gale in order to cope with the work ahead of them."

The real cause of the trouble apparently is that Patricia Airways is short of cash wherewith to increase their fleet and cope with the work available, and that Western Canada Airways, who have the cash, cannot get delivery of machines from the American Aircraft Industry.

It is suggested that having more work than they can possibly handle, both firms have let their mail carrying and regular transport business take a second place when a special job offering profits greater than usual has come along.

The Patricia Herald—very soundly one imagines—holds that in the long run it would pay the firms concerned to concentrate on their regular services, and to prove the efficiency of aerial transport, thus building up a goodwill for the future, rather than to snatch profits in this way.

The article in question ends thus :—"At the present moment, and for many months to come, the Red Lake Mining District needs the undivided attention of both companies. So let them hop to it."

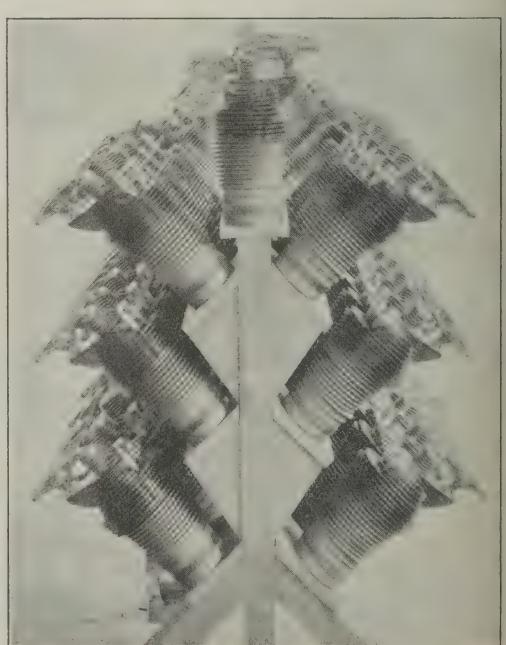
This same number of *The Patricia Herald* contains other evidence of the importance of air transport in this neighbourhood. In an account of the investigation of an alleged murder it is recorded that the coroner and a police official visited the scene of the crime in one of the Provincial Government's aircraft, taking two hours for a journey which otherwise would have absorbed "the better part of a week."

The first item under "Red Lake Notes" reads :—"Owing to the erratic air service just now, news from Red Lake and other points North has not been coming to hand with any degree of regularity."

Concerning a district known as Fort Hope Country, as yet mainly unexplored but believed to contain gold, it is recorded that "Mr. L. T. Rogers of Haileybury flew out two days ago" to examine certain claims.

A cutting from another paper, left by the same visitor, gives details of one of the contracts undertaken by Western Canada Airways which presumably accounts for their alleged neglect of the Red Lake service. This particular contract appears to have occupied two Fokker Universal machines and four members of the staff for nearly a month. The business in hand was the transportation of twelve men and 20,000 lbs. of freight from Cache Lake to Fort Churchill—a distance of nearly 400 miles.

The said freight included a drill, derrick and engine and six cases of dynamite. The expedition was afflicted apparently by bad weather and by humpy conditions of the ice on the lakes on which they had to land. This led to undercarriage and ski troubles, and on one occasion to a journey of 110 miles by handcar along the line of the Hudson Bay Railway to get necessary repairs made.



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A TORPEDO-BOMBER.—The Avro Buffalo (Napier Lion), a two-seater for Naval use.

OUR OPPORTUNITIES IN CANADA.

[*The following letter has been received from a Canadian pilot with long experience in Service and Civil flying. It deserves the careful consideration of British Aircraft Manufacturers.*—C. G. G.]

I have read with interest the excellent article in your paper of Aug. 17 on the British Aircraft Trade and its competition with the United States product in the markets of our Empire. I feel very strongly on this very matter and agree with you, but do not think you have put the matter up to the British Manufacturers half strongly enough.

Here in the Dominion of Canada we have but one aircraft manufacturing firm which seems not to be in business in a strong competitive way. It lives by Government orders and builds to the Government's requirements at prices which are prohibitive so far as the commercial and amateur markets are concerned. It seems not to have produced a strong self-reliant general-purpose ship capable of paying dividends in the second and third years without expert attention, and a great deal of adaptation and nursing along.

Your British Manufacturer produces a wonderful aircraft in the way of staunchness and reliability, but it is built to meet the conditions met with in England and the Continent, and no attempt has been made to study particular needs in the Dominions.

In their defence you will say that the market does not warrant such study but how do you know that? How do you know that if the British Trade had made a study of the requirements out here they would not now have a greater market than exists for United States products. There were serious commercial inquiries long before the developments of the past two years. The United States manufacturer is willing to anticipate a need and thereby create it.

There are, as you say, plenty of machines in the States on the market of the 200 h.p. class quite suitable for any moderate commercial business, and they are available at reasonable prices (not always spot cash) on which quite reasonable delivery dates can be had. These machines are also suitable to our conditions with very little if any adaptation and yet their winter climate is not as severe as ours.

Look over the British choice and the Handley Page Hamlet is the nearest to our requirements but at twice the American price, and you cannot be sure that the engines will function during our severe weather in the winter. Your British car-



FOR SHIP-BOARD STOWAGE.—The Avro Buffalo (Napier Lion) folded.



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burettors are a constant source of trouble out here as well, because they are designed for damp sea-level atmospheres.

If British firms want a slice of the Dominion Markets they will have to study our wants and not try to make us like their products because they seem to suit the British Maker and his indulgent customer.

Commercial pilotage is not a fairweather job out here. We fly of necessity in most weathers except absolute fog, cloud-bursts or blizzards. Cold and heat are not supposed to affect the work, and one company in Canada last year carried on good service during a week's cold snap when the thermometer went to fifty below zero. Needless to say their power-plant was a Wright engine.

I am not writing you as an official of the company for whom I am piloting, nor as a pilot, but as a Canadian born in Canada who would like to see more trade within the Empire and who would like to fly a suitable machine of British make if they could only be had, and at prices within reason.

You take pride in your hand-work over there. But precision machinery beats you to the market. And it is doubtful whether the difference between the hand-done product and the machine product is worth the difference in price, as often two of the machine products can be bought for little more than one hand-made job, and twice as much can be accomplished.

I started this letter with the idea of having my little say about our needs out here, whether you or the makers know them better than I do or not. I do not think it will at all correspond with what your British Makers think we *should* need. Here is what we want :—

Monoplane, no bottom wing to become damaged in handling or be in the way when loading freight, etc.

Folding wings, so that costly wide-span hangars do not need to be built at bases that may be in use for only two or three years.

Metal construction, and of a type that can be repaired in the base and not require to go back to the manufacturer for repair. The Boulton and Paul system seems good, otherwise the tubular welding type of construction with ample safety factors.

Metal wings, complete, or a wood-metal construction fabric-covered. Three-ply wood wings have not reached the stage where they remain unaffected by weather changes or climate changes.

Cabin jobs, with pilot inside with the passengers. Here is where the factor of confidence enters into our work. Our passengers though air-minded like to see their pilot so as to know when not to worry if the ship goes off the level keel in a bump, etc.

Plain finish inside the cabins that will stand up under freighting work as well as passenger work.

Good performance, on wheels, skis, or floats. In our particular type of work we look for good average performance on floats. We can reasonably expect a little better on skis when winter comes.

" Designed in " stability, such as most of the modern U.S products possess. This may seem a bit finicky, but you must consider that we do not want to have to pilot all the time we are in the air because there is plenty of work to do while on the ground and we require our energies for that. In commercial work of the type we have to do here, the flying season is all-year, with the exception of a couple of weeks in Spring and Fall. The day has on many occasions started at six a.m. and finished at nine p.m. Also another important factor is that you may only do five or six hours in the day " air-time," but you will have made more than fifteen landings in the time and often under very difficult conditions of load, wind, water and weather. So why not have a machine like the Fairchild, the Stinson, the Buhl Sedan, the Ryan and many others in which the pilot can rest while in the air. In this work the pilot is not landing at a nice harbour except at his home base. The rest of the time he is landing into cramped spaces and on doubtful waters and coming in to rocky shore-lines or up to rickety pole docks built by the very busy mining engineer. So you see there is plenty to be careful about without being required to be keenly watchful in the air except to pilot to the utmost comfort to your passengers.

Self-starters, a good thing to have in a cold climate.

There is going to be a large necessity and sound enthusiasm for aircraft in Canada. And that affords by nature a paying venture for any big air concern if they care to study and anticipate the requirements.

LIGHT ALLOYS AND PROTECTION AGAINST CORROSION.

The most serious defect of the present type of light alloy is its liability to corrosion. This is particularly serious in the case of aeroplane structures where very thin material is necessarily employed, and the margin of structural strength that can be given is necessarily small. Many methods of protecting light alloys have been proposed and tested, and so far the most valuable, at any rate for aircraft work, is the well-known anodic treatment, developed and extensively used in this country.

The Aluminium Company of America have for a long time been experimenting with methods of protecting light alloys against corrosion, and in a report recently issued by the U.S. National Advisory Committee for Aeronautics,* they announce a new type of protected light alloy which according to their statements withstands the majority of corrosive agents to a remarkable degree.

The most dangerous type of corrosion in the case of most of the light alloys is that known as intergranular corrosion. The extent of the damage caused by the type of corrosion cannot be seen by inspection of the surface of the metal, which, however, may be greatly weakened and embrittled thereby without any visible warning.

Careful tests have led the Aluminium Company to the conclusion that commercially pure aluminium is immune from intergranular penetration by corrosion, and that this material is in fact very much more resistant to the ordinary corrosive agents than are any of the harder and stronger alloys of the metal. The U.S. Bureau of Standards some time ago announced that they had found that a coating of pure aluminium applied as a metal spray to light alloys stood up to corrosive agents which caused failure of any other protective coating tested.

The Aluminium Company's new product, " Alclad," consists of a layer of a suitable light alloy, sandwiched between two much thinner layers of commercially pure aluminium. No details of the method adopted for producing this compound material are given, but the three layers are in an effective manner welded one to another, and there are in the material two layers in which the alloying materials in the hard alloy have in part diffused into the outer layer of aluminium.

Extended tests made of sheets of an alloy known as 17ST (an aluminium-copper-manganese-magnesium alloy) show that though that alloy itself is rapidly corroded in the usual salt spray test, and suffers intergranular penetration to a marked extent, yet the same material in the aluminium clad condition was protected against attack even on the exposed edges, where the alloy is not covered by the pure metal.

It was also found that the alloy was not corroded even if the aluminium coating was scraped away over comparatively large areas. This is because the pure aluminium is electronegative to the alloy, and sets up an electrical-potential difference between the exposed alloy and the corroding fluid of such a sign as to inhibit the solution of the alloy in that fluid.

Samples of 17ST alloy in the " Alclad " form have been exposed for 24 weeks to spray from a 20 per cent. solution of salt. At the end of this period the changes observed in tensile strength and elongation are so small as to be within the limits of experimental error. Some surface corrosion of the pure metal surface had occurred but in no case was it enough to cause the material to break through a corroded area.

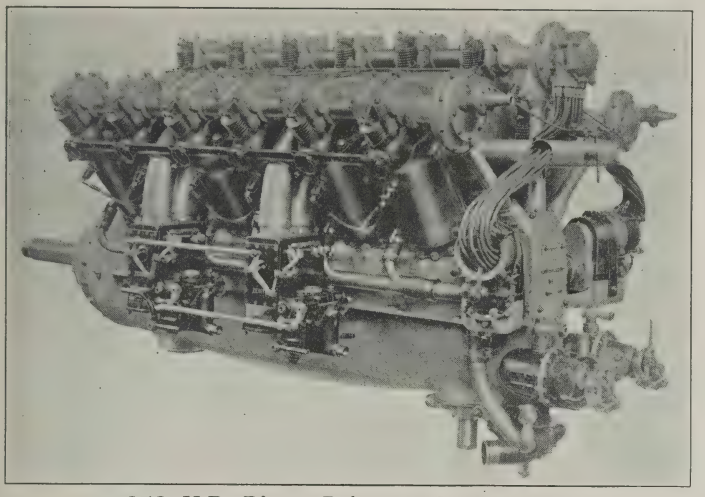
" Alclad " can apparently be rolled down to extremely thin gauges without losing its corrosion-resisting properties, and does not so far as can be ascertained require any special precautions in handling it. The outer layer of soft metal is said to render it easier to press than the unprotected sheet, and this layer is not liable to become detached even if the material is very roughly treated.

Altogether " Alclad " seems to be an interesting and promising material. Certainly if it is as resistant to salt water corrosion as the tests suggest it will go far towards overcoming the still serious troubles to which the metal seaplane hull is subject.

* Technical Note No. 259. " Alclad," a new corrosion resistant aluminium product. By E. H. Dix, Jnr., Metallurgist, Research Bureau, Aluminium Company of America.

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New York—Buenos Aires. MM. Duggan, Oliveiro, Campanelli. Savoia Flying Boat (450 h.p.).

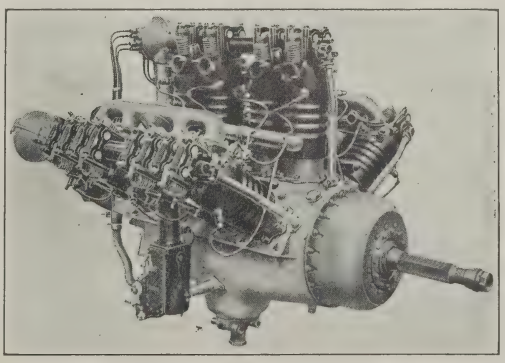
1926.

Circuit des Capitales. Capt. Arrachart and M. Carol on a standard Potez XXV (450 h.p.). 7,800 kms. in 3 days.

Paris—Pekin. Capt. Pelletier Doisy and M. Carol on a standard Breguet XIX (450 h.p.). 10,500 kms. in 6 days, 18 hours.

Tokyo—Copenhagen. Capt. Botved on a standard Fokker C.V. (400 h.p.). 10,345 kms. in 9 days (9 stages).

Paris—Rome—Tunis—Casablanca—Paris. Capt. Pelletier Doisy and M. Gonin, on a Potez XXV (450 h.p.). 6,400 kms. in 41 hrs. 45 mins.



450 H.P. Direct Drive or Geared.

1927.

Across Africa. Capt. De Corvette Guilbaud and mechanic Rapin, on a C.A.M.S. 37 G.R. (450 h.p.). 23,000 kms.

Boloma—San Fernando de Norohna. Lt.-Col. Sarmiento de Beires, on a Dornier Wal (two 450 h.p.). 2,565 kms. in 17 hrs. 30 mins.

SOCIÉTÉ LORRAINE-DIETRICH, Argenteuil (Seine et Oise), France.

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W. 1.]

Report for week ending Oct. 23.

Flying Time 17 hr. 5 min. *Instruction* 15 hr. 45 min. *Soloists* 1 hr. 20 min. *Instruction.—With Mr. F. G. M. Sparks*—L. C. Davey, L. R. Winter, A. Fowler, M. P. Susman, Miss Wilson, G. W. Hall, Mrs. Russell, G. C. Bonner, A. J. Richardson, E. R. Andrews, H. B. Michelmore. *With Mr. S. L. F. St. Barbe*—A. Fowler, E. R. Andrews, Mrs. Russell, Capt. Burt, R. Hayes, T. S. Keith, L. R. Winter, H. J. Greenland, P. W. Hoare, H. Solomon.

We had four blank days owing to the weather.

This week the Club hopes to take delivery of D.H. Moth G-EBNN to replace G-EBKT, which was crashed in August last.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Oct. 22.

Flying Time 17 hr. 40 min. *Instruction* 8 hr. 20 min. *Solo Flights* 1 hr. 55 min. *Passengers* 5 hr. 30 min. *Tests* 1 hr. 55 min. *Instruction.—With Mr. Brown*—Messrs. Meades, Agar, Heath, Rowley, Sykes, Chart, Gort, Allott, Hope, Nelson, Miss Brown, Miss Baerlein. *With Mr. Cantrill*—Messrs. Nelson, Harber, Rowley, Ruddy, Browning, Gort, Miss Baerlein. *With Mr. Scholes*—Mr. Rowley. *Soloists (under instruction).*—Mr. Harber. *Pilots.*—Messrs. Nelson, Costa, Twemlow and Chapman. *Passengers.—With Mr. Lacayo*—Mrs. Lees, Mrs. Webster, Miss Stott. *With Mr. Scholes*—Mrs. Jackson, France, Mr. Meades. *With Mr. Twemlow*—Messrs. Allott and James. *With Lady Heath*—Mrs. Cottam, Mr. Stott. *With Mr. Cantrill*—Mr. Stott. *With Mr. Goodfellow*—Miss Boston. *With Mr. Williams*—Mr. Ruddy. *With Mr. Costa*—Miss Dodd.

Notes.—A week of dirty weather and a week-end of fog. Sunday was a day of very poor visibility and what with four club kites in service and our Messrs. Hollingdrake and Dobson adding to the aerial congestion on a couple of Avians life was very 'ard. A number of pilots came down with very stiff necks which subsequently required oiling at the club-house.

P.S.—Owing to bad weather there has been no crashery this week.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Oct. 22.

Flying Time 13 hr. 20 min. *Instruction* 9 hr. 55 min. *Soloists* 3 hr. 25 min. *Passengers* 1 hr. *Instruction.—With Mr. Beck.*—Miss Woodhead, Messrs Humphries, Parker, Goldney, Dane, Ellis, Crowther, H. Crowther, Gardiner, Thomson, Miller, Brackenbury, Ellison, Weaver, Ward. *Solo Instruction.*—Messrs. Lax, Ellison, Lister. *"A" Pilots.*—Messrs. Brackenbury, Dawson. *Passengers.—With Mr. Beck*—Mr. Coles. *With Mr. Brackenbury*—Messrs. Brown, Crowther.

The Midland Aeroplane Club.

[Sec.: Gilbert Denison, Villa Road, Handsworth, Birmingham.]

Report for week ending Oct. 22.

Flying Time 6 hr. 24 min. *Instruction.—With Mr. McDonough*—H. J. Lattey, R. Darlington, S. Duckitt, G. Robson, E. P. Lane, Capt. J. C. Chaytor. *Soloists.*—E. J. Brighton, C. Fellowes, E. R. King. *Passengers.—With Mr. Willis*—T. R. Lunt. *With Mr. Brighton*—R. G. Hall, J. M. Parkes.

Bad weather restricted flying.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for two weeks ending Sunday, Oct. 23.

Flying Time 40 hr. *Instruction* 25 hr. 35 min. *Soloists* 12 hr. *Joy-riders* 45 min. *Test Flights* 1 hr. 40 min.

Instruction.—With Flt. Lt. Thomson—Miss Home, Mrs. Willis, Mrs. Aitken Dick, Mrs. Andreae, Lt.-Cdr. Evans-Penman, Cdr. Hunt, Capt. Molyneux, M.C., Capt. Kirby, Lt. Kidston, R.N., Lt. Richardson, R.N., Lt. Hall Thomson, R.N., Lt. Mandeville, R.N., Flt. Lt. Messenger, Capt. Kirby, Messrs. Cripps, Baynes, Hall, Grahame Gibbs, Boileau, Fawkes, Kerry, Brewster, Falconar, Nuthall, Dickson, Williamson, Whittle, and Stanford. *Soloists ("A" Pilots).*—Flg. Off. Southey, Messrs. K. P. L. Bowen, E. I. C. Wyllie and Fagan. *Other Soloists.*—Miss Home, Capt. Molyneux, M.C., Messrs. Cripps, Falconar, Cooper, Fawkes, Shepherd, Parker, Whittle, Graham, and Stanford. *Passengers.—With Mr. Bowen*—Miss Churcher, Mr. Lovatt. *With Mr. Wyllie*—Mrs. Whedwright.

On Thursday, Mr. Fawkes did his first solo on a Moth. He had previously flown solo once on an Avro in the Auxiliary Air Force. On this day, also, the Auto-Giros were demonstrated before the Press.

With regard to the appeal of the Suffolk Club for surplus furniture we certainly have an opossum rug we shall be pleased to give to them if they will promise to treat it kindly. It has been "kennelled" in a damp room for many months and is therefore a trifle high, but any good vet. should be able to put it on its feet again. It is tame and will eat anything; especially children.

Congratulations to the five members of the Norfolk Club who put in over ten hours' dual between them last week, but what has happened to that interesting individual who used to figure in their reports as "flat turn Tommie"?—R. H. B.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Oct. 23.

Flying Time 12 hr. 30 min. *Instruction.—With Mr. G. F. Lines*—A. Cooper, R. Hare, C. Gowing, C. Bougrat, R. F. Pattor, D. J. Finch. *Soloists.*—R. Harmer, R. L. Moore, H. Pank, W. A. Ramsay, W. Cubitt, F. Gough. *Passengers.*—Miss Eldridge, Mr. J. Crosshill and A. Sutton

Weather.—First half, good. Second half, no good. *Notes.*—How extraordinary are we humans! Prior to getting a second machine, Mr. Lines was kept busy trying to work out a scheme whereby all and sundry could fly. It was impossible, the demand was too much for one machine and bad weather. Since the arrival of a second 'bus, the rush for flying (dual and solo) has been most conspicuous, but by its absence only.

G. F. L. seems to be still troubled with the old complaint, as soon as we get a machine with a watch in it, he promptly takes it out, one would remind him that this should be done at a more appropriate moment and that his action is certainly previous. Capt. W. A. Ramsay has been granted an "A" Licence; this sounds all wrong, as he is only now entitled to take up passengers, when only a few weeks back he was charging about in twin-engined bombers with a crowd aboard.

We hope to attend at Hadleigh next Sunday in force and give the Suffolk Club a hand; there is a danger of at least three machines going. Mr. Gough is expecting to take the D.H.53 monoplane (8 h.p. Blackburne engine), which seems to create interest everywhere it goes. This was the property of Flt. Lt. Carnegie, now with the Far East Flight, and late of the Suffolk Club.

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. G. Flemming, Filton Aerodrome, Patchway.]

Report for week ending Oct. 22.

Flying Time 18 hr. 50 min. *Instruction* 13 hr. 30 min. *Soloists under instruction* 4 hr. 5 min. *Passengers* 1 hr. 15 min. *Instruction.—With Mr. Bartlett*—Miss Miles, Messrs. P. H. Bryan, Hon. H. C. H. Bathurst, M. L. Alexander, T. H. Clarke, A. H. Downes-Shaw, C. R. Greenhill, K. Patrick, C. E. Pitman, J. Pitman, H. A. Tiarks, R. A. Hall, J. H. Roberts, A. E. Stevens. *Soloists.*—Miss Miles, Messrs. Hon. H. C. H. Bathurst, A. H. Downes-Shaw, R. A. Hall, J. E. Tratman. *Passengers.—With Mr. Bartlett*—Miss Thompson and Mr. Morris. *With Mr. Hopper*—Mr. B. E. Maggs.

Six new pilot members have joined during the last fortnight, making a total of sixty pilot members.—G. F.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

The Air Display is to take place on Sunday next, Oct. 30 (10.30 till dusk), at Hadleigh Aerodrome.

The Hon. Lady Bailey and many other well-known Pilots will take part in the Demonstration.

Admission, 2s. 6d. and 1s. (children half-price). There will be a special 'bus service from Ipswich Cattle Market.

The Nottingham Aero Club.

[Sec.: C. R. Sands, Milton Chambers, Nottingham.]

Nottingham Aero Club Ltd. was registered on Oct. 20 as a company limited by guarantee and not having a capital divided into shares, with 300 members, each liable for £1 in the event of winding up. The object are to acquire all or any of the assets, rights and liabilities of the unincorporated Nottingham Aero Club.

The first directors (to number not less than 5 nor more than 10) are: Sir Harold Bowden, Bt., Bestwood Lodge; Sir Albert Ball, J.P., Stanstead House, Wollaton Park; D. Rushworth, Meadfoot House, Magdalen Road, mechanical engineer; H. R. S. Birkin, Ruddington Grange; A. C. Ball, 2, Devonshire Drive, engineer; H. B. Clarke, 2, Devonshire Road, chartered electrical engineer; J. M. Dickson, University College, engineer; L. H. Pearson, Long Row, electrical engineer; C. R. Sands, Milton Chambers, Milton Street, C.E.; R. A. Blake, Prudential Buildings, Queen Street, stockbroker. All of Nottingham. The two first named are permanent.



HOME AGAIN.—Lieut. Bentley, S.A.A.F., and his fiancée, Miss Dorys Oldfield, after whom he named his Moth, on his arrival at Johannesburg from London.

239 Motor Manufacturers including the makers of the Leading Aero Engines, recommend Wakefield CASTROL.

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provides the thickest oil-film under arduous conditions of heat and load, while remaining fluid at very low temperatures, thus ensuring maximum performance, minimum wear and carbonisation, and easy starting.

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 15; Tuesday, 16; Wednesday, 17; Thursday, 17; Friday, 14; Saturday, 12; Sunday, 4.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 34, passengers 306, freight 14 tons.

AIR UNION:
Paris—London: Machines 35; passengers 129, freight 12½ tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 12, passengers 48, freight 3 tons.

SABENA:
Brussels—London: Machines 2, passengers 10.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 12, passengers 23

COMPAGNIE AERIENNE FRANCAISE:
Machines 0, passengers 0.

PRIVATE:
Machines 0, passengers 0.

Total number of trips by British Machines 34, carrying 306 passengers. Foreign Machines, 61, carrying 210 passengers.

COMPARATIVE FIGURES.

Week ending Oct. 24:
Machines, 95; Passengers, 516; Crews, 179; Total personnel, 695.
Corresponding week, 1926:
Machines, 74; Passengers, 209; Crews, 95; Total personnel, 304.
Corresponding week, 1925:
Machines, 56; Passengers, 191; Crews, 65; Total personnel, 256.
Corresponding week, 1924:
Machines, 73; Passengers, 307; Crews, 90; Total personnel, 397.
Corresponding week, 1923:
Machines, 49; Passengers, 116; Crews, 73; Total personnel, 189.
Corresponding week, 1922:
Machines, 82; Passengers, 355; Crews, 139; Total personnel, 494.
Corresponding week, 1921:
Machines, 57; Passengers, 134; Crews, 77; Total personnel, 211.
Corresponding week, 1920:
Machines, 111; Passengers, 192; Crews, 140; Total personnel, 332.

Croydon Notes.

With great regret one has to record that Mr. Eskell, Imperial Airways' Traffic Manager at Croydon, has been forced to take an extended period of sick-leave. Lung trouble, fortunately one believes in an early stage, complicated by minor nose and throat troubles, have made it necessary that he shall undergo a slight operation, and thereafter indulge in at least six months of rest.

Quite why it should always be the cheeriest, most energetic and most likeable of people who are afflicted by these visitations has always seemed to be an unfathomable mystery, but at the least Mr. Eskell's cheerful optimism over his own misfortunes should go far to ensure a speedy and complete recovery.

Croydon becomes singularly dull at this season of the year. The change-over from Summer to Winter time-tables is an affair much more abrupt than the change in the actual length of daylight, and even the change from Summer to Greenwich Time does not entirely conceal that fact.

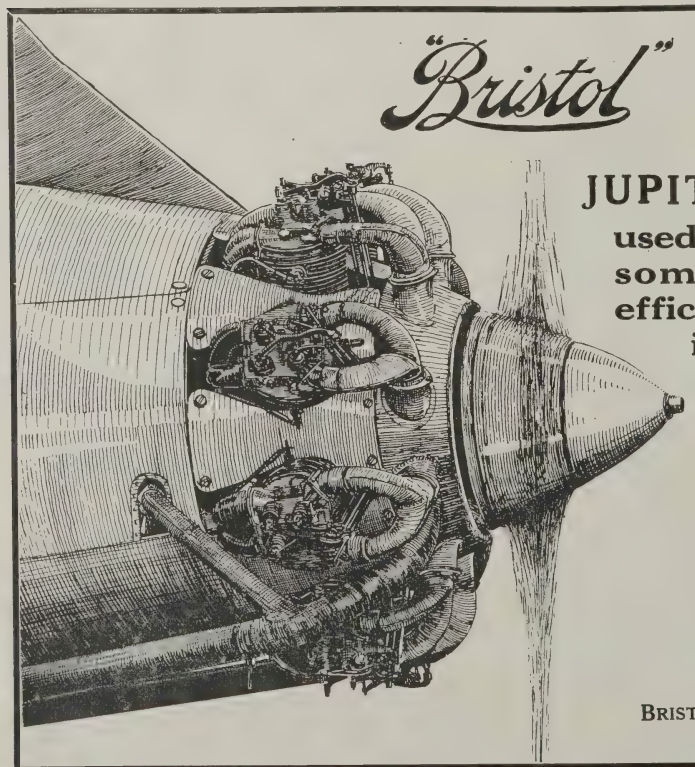
The result is that the earlier part of the morning and the later part of the afternoon seem to be entirely eventless, and only the middle of the day brings signs of visible activity.

Actually in certain departments of air line work this is a very busy season. The period when flying is slack is the period when machines can most economically be laid off for thorough and complete inspection and overhaul. Complete inspection once a year is necessary for the renewal of each machine's Certificate of Airworthiness, and what is known by Imperial Airways' staff as "Dock overhaul" can be combined with this compulsory inspection at this period of small traffic.

Thus—in the background and unseen by the casual visitor—Imperial Airways' engineering staff is hard at work on preparing its fleet for the work of next season.

Incidentally now is the season when it would pay the designers of commercial aircraft to visit Croydon and to see with their own eyes the kind of weakness and defect that most worries the operator of their product. If they will go there with an open mind and a desire to learn how to make better commercial machines in the future they will be received gladly by all concerned.

Among those machines which are in process of overhaul at the present moment at Croydon, the Handley Page Hampstead fitted with three Bristol Jupiter VI engines is now nearing completion. It will be remembered that this machine was the first of Imperial Airways machines to be fitted with this type of engine and that it is the only one so fitted which has been in service on the European routes of this Company. The Jupiter engines gave no trouble of any kind during the



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used in maintaining some of the most efficient air services in the world.

The Middle East Air Route operated by Imperial Airways Ltd., on which Jupiter engines are used exclusively, has operated with 100% efficiency since the inauguration of the service.

K.L.M. Air Lines have fitted Jupiter engines in every one of their machines.

On all the principal French air routes Jupiter engines are in service.

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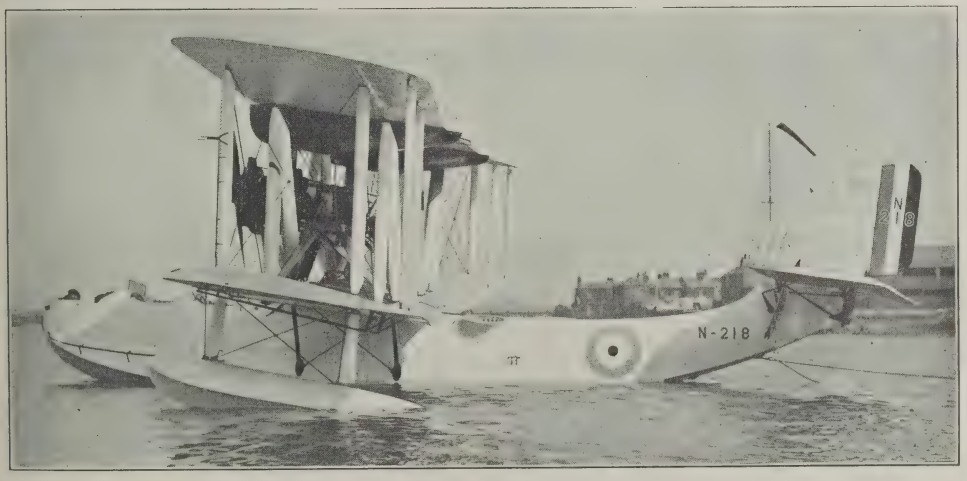
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time of their service, but this service was terminated by an accident to the machine itself.

In all probability when this machine returns to service it will be equipped with a set of Fairey metal airscrews, which are to be given an extended service trial on it.—W. H. S.

THE KHARTUM—KISUMU SERVICE.

The Postmaster-General announces that, owing to an accident to the seaplane employed in the experimental flights between Khartum and Kisumu, the experimental Air Mail to Uganda and Kenya has been discontinued. The despatch from London of Sept. 29 has been received in Kenya.

A PASSENGER-CARRYING DEVELOPMENT IN CALIFORNIA.

At present Europe possesses a very complex network of passenger-carrying air lines operating with fair regularity to predetermined schedules. America has a very considerable total mileage of regularly operated air routes, but these are practically entirely engaged on mail-carrying services.

The main reason for the absence of air lines which are primarily devoted to passenger service in the United States, is not that there is less scope for this type of service in that country than in Europe, it is rather because no one at present has discovered how to run aerial passenger services at a profit. In Europe Governments have subsidised the air lines and made passenger work possible. In the United States the Government has refused to subsidise such air lines and consequently no one has felt justified in undertaking their development.

The committee responsible for the administration of the Daniel Guggenheim Fund for the Promotion of Aeronautics has decided that it will in some measure take steps to reduce the handicap under which would-be air-line operators in America labour.

It was announced on Oct. 4 that the Fund has agreed to make a loan to the Western Air Express for the purpose of financing the purchase of three modern multi-engined aeroplanes to be run on a passenger-carrying service between Los Angeles and San Francisco.

The terms on which this loan is to be granted are not disclosed. Presumably it is repayable to the Fund, but equally it seems safe to assume that the loan provides capital necessary for the institution of the air line on terms more favourable to the promoters than they could have obtained in the open market, and though it is not strictly a subsidy, it does to some extent serve the same purpose.

Western Air Express hopes to open this service early in 1928. It will operate during daylight only, and the journey between the two towns will take three hours. The schedule proposed will allow business men in either city to visit their offices in their home town in the morning, go thence to the aerodrome, and reach the other of the cities in the early afternoon, and by returning in a fast night train return to their own office by next morning.

The distance between the two cities is about 350 miles, and the machines to carry out the scheduled service must therefore cruise at 120 m.p.h. to keep within the promised three hours' journey time. They are to have a pay load capacity of approximately 4,000 lbs., and according to Western Air Express statements, meals will be served on the journey.

The actual type of machine to be used is as yet a subject for negotiation with the Aircraft Constructors of the United States.

A GOOD BEGINNING.

Sq. Ldr. G. H. Reid, D.F.C., R.A.F. (retired), the inventor of the World-famous Turn-Indicator, and of the Time-Reaction testing machine for pilots, has recently formed a company, The Reid Manufacturing and Construction Co. Ltd., to exploit, manufacture and market the various things which he has patented, and will invent in the future.

Aeronautical folk will be interested to learn that Mr. Fred Sigrist, Joint Managing Director of the Hawker Engineering Co. Ltd., is interested in Sq. Ldr. Reid's firm. This is certainly a happy augury for the business, for in very nearly twenty years' knowledge of Mr. Sigrist one has never yet known him to back the wrong horse.

PERSISTENCE.

The attempted flight across the Atlantic, which, according to claims, has been conceived and financed by women for a woman, to be piloted by mere men, has so far done little else but achieve considerable newspaper publicity and cause some smiles. So far three unsuccessful efforts have been made to fly to Copenhagen, but in all three cases the machine has been compelled to return.

In case there is anybody who is ignorant of details, it may be worth while mentioning that the machine is a Sikorsky amphibian monoplane (two 200 h.p. Wright Whirlwind engines), the pilot is Mr. Wilmer Stutz, the navigator Mr. Brice Goldsborough, and the passenger is Mrs. Grayson, who has set her heart on reaching Copenhagen.

The last, but apparently not the final, attempt to get away from America started on Oct. 23. The machine left Old Orchard, Maine, at daybreak, but after proceeding for 500 miles it was driven back by engine trouble and heavy fog, and landed again at its starting point at 16.00 hours. The two previous attempts were made on Oct. 17 and 22, but on these occasions the machine was only able to remain in the air for 5 and 25 minutes respectively.

A GERM OF AN IDEA.

According to *The Evening Standard* a Mr. Robert Snepp of Hawkhurst, Kent, has dug up a potato shaped like an aeroplane, complete with wings, tail and landing gear. One has often heard that present aircraft production methods are wrong. Can this be an augury for the future whereby aeroplanes will be grown from seed?

It would seem to be worth the while of the Air Ministry and the Society of Aircraft Constructors to investigate this problem, for although THE AEROPLANE is still happy to continue its work as a philanthrophic pamphlet existing for the good of the Aircraft Industry it seriously warns its clients that such a possibility as is hinted above makes it necessary to look into the question of future policy.

While at present there is no intention of changing the name to *"The Potatoplane"* the possibility of the introduction of a section devoted to "Private Gardening, or Bulbs and Tubers," is exciting the interest of at least one member of the staff.—L. B.

THE RISING GENERATION.

A master at a well-known Public School, writing on Oct. 20, says :—

May I in conclusion say that THE AEROPLANE is as eagerly looked forward to each week by the boys as is any paper, not excepting *The Motor* or *Punch*?

GOOD PUBLICITY.

Anybody who wants to know about the famous Napier Lion engine, which does all sorts of jobs all the way from running air liners to winning Schneider Trophies, will be interested in the handsome booklet recently produced by D. Napier and Son, Ltd., of Acton, W.3, entitled "Life in the Machine."

The pictures illustrate some of the World's most interesting aeroplanes, together with some curious Napier cars of the very old days, and the letterpress gives quite an interesting description of the Napier Company's outlook on commerce and its factory methods.

The Napier Company will be pleased to send a copy post free to any reader of THE AEROPLANE who asks for it.





Fairey III F. Napier Lion—Cellon Dope

It is a noteworthy fact that the Fairey Aviation Company chose Cellon Dope for use on the R.A.F. Aircraft which completed the 1927 Cairo-Cape-Cairo Flight

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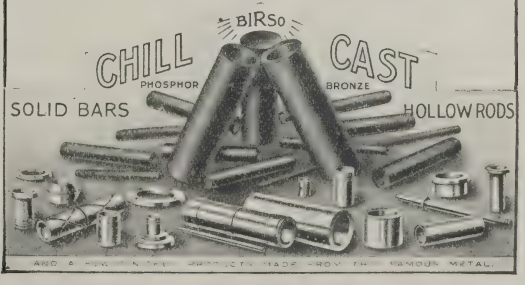
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BACK NUMBERS WANTED.

Readers of THE AEROPLANE who have copies of the issue of Aug. 24, 1927, which they do not want are asked to communicate with the Editorial Dept., 175, Piccadilly, as there are several other readers who are anxious to buy copies of that issue.

PERSONAL NOTICES.

DEATHS.

BORTON.—On Oct. 9, at Cheveney, Hunton, Maidstone, Lt.-Col. Arthur Close Borton, D.L., J.P.

Lt.-Col. Borton was the father of Col. A. D. Borton, V.C., C.M.G., D.S.O., and Air Commodore A. E. Borton, C.B., C.M.G., D.S.O., A.F.C., R.A.F.

HALL.—On Oct. 15, suddenly, the Rev. Richard Hall, O.B.E., Staff Chaplain (Wesleyan), R.A.F., of "Gleamingwood," Chatham.

The Rev. Richard Hall was stationed at Eastchurch. He held the relative rank of Group Capt., R.A.F.

NICHOLL.—On Oct. 20, at a nursing home in London, Lt.-Col. Vincent Nicholl, D.S.O., D.S.C., R.A.F., of The Mill House, Stoke Poges, only son of Ernest V. Nicholl, of Oakwood, Redhill, Surrey, aged 35 years.

RUMFITT.—On Oct. 20, at Leuchars, Fife, as the result of a flying accident, William Harvey Osborne Rumfitt, Flg. Off., R.A.F.

Mr. Rumfitt entered the R.A.F. with a S.S. commission in March, 1925, and was posted to No. 5 F.T.S., Sealand, for a course of instruction. He was promoted to the rank of Flg. Off. in September, 1925, and posted to No. 7 (Bombing) Sqdn., Bircham Newton, in February, 1926. In January, 1927, he was appointed to the R.A.F. Base, Leuchars.

TOMLINSON.—On Oct. 20, at Dundee Infirmary, as the result of a flying accident, on the same day, Aircraftman Francis William Tomlinson, R.A.F.

MARRIAGES.

WEIGHILL—BAKER.—On Oct. 22, at St. Luke's, Redcliffe Square, W., Reginald George Weighill, Flt. Off., R.A.F., son of Mr. and Mrs. R. H. Weighill, of Whitby, Yorks, to Irene Drury, daughter of the late the Reverend H. Drury Baker, and of Mrs. Henry Scott, of 59, Lexham Gardens, W.

REID—GOLDSMITH.—On Oct. 1, at St. Andrew's, Waterloo Street, Hove, Flt. Lt. H. R. McLaren Reid, D.F.C., son of the late H. Reid, of Buenos Aires, to Margaret, widow of Maj. H. A. Goldsmith, and elder daughter of Dr. Copeman, of Hove.

BIRTHS.

BUTLER.—On Oct. 23, at 28, South Street, Park Lane, to Lois, wife of Alan S. Butler—a son.

TURNER.—On Oct. 15, at "Radnor," 34, Rodway Road, Roehampton, to Norah, wife of Flt. Lt. Cresswell Turner, A.F.C., R.A.F.—a daughter.

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SOUTH AFRICA'S AIR APOSTLE :—Major Alistair Miller, Member for Durban in the South African Parliament, flying his Moth (Cirrus engine) over the famous beach at Durban.



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THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 18.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 7s. 6d.; 6 months, 15s.; 12 months, 30s.
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ON THE PROGRESS OF AIR SURVEY.

The advances which have been made in the technique of air survey during the past year or two are rapidly making mapping from the air so much cheaper than any other form of mapping that while it may not put ground survey out of business, it will certainly become indispensable to all official surveys as a means of filling in detail, even when a particularly close check by means of ground measurements is desired.

In fact the whole of England could be re-mapped from the air by the latest methods in three years, against the twenty-five years required by the official Ordnance Survey, for far less money that the work now costs. Unfortunately that would throw a number of worthy people out of work. But it will have to be done within the next few years, for our new arterial roads and town-planning are making existing maps absolutely useless.

Air survey, in fact, has almost reached the point where the act of flying is the simplest and cheapest part of a survey contract. The aeroplane itself has now come to occupy the position of a mere machine-tool and in big contracts, such as are now being negotiated, the amount of money involved is so great that the cost of building improved aircraft specially designed for survey work is almost unimportant. That is to say, a firm engaged on a big survey can well afford to indulge in the luxury of twin-engined or three-engined machines simply for the sake of avoiding forced landings, and consequent interruptions of photographic operations on a suitable day, quite apart from the risk of the machine being damaged in a forced landing.

The pilot himself is still an important factor in the operations for the air survey pilot has got to be a highly specialised individual. It is not a job for which a survey firm can engage any casual slap-dash time-expired young pilot from the Air Force. Not only must the pilot be able to fly well, in such matters as getting his machine off the ground and getting it down safely again and being able to find his way about country, but he must fly with extreme accuracy over a set course and must maintain his height with equal accuracy.

Also he must take an intelligent interest in his work, for if he does not he will never be able to understand why such extreme accuracy of flying is necessary. Moreover he must be prepared to turn his hand to anything at any time, all the way from repairing his engine to helping to fit up a dark room in the jungle.

The procedure of air map-making has now reached a stage when rapid production is possible. Astronomical parties, who are sent out to fix on the ground the latitude and longitude of certain prominent positions in the area to be mapped, so that the photographic mosaics can be built up accurately on them, can be taken out by aeroplane and moved by aeroplane at intervals from one point to another and, if necessary, supplied with food and ammunition by aeroplane. While they are fixing their points the aeroplane can be doing the actual photography. And the photographs can be developed and printed at the base hundreds of miles away while the astronomical "fixes" are being made.

Then the astronomical parties can send their figures, and describe the exact location of their "fixes," to the base by wireless so that the people in the mapping office can be actually at work on the maps from the photographs while the astronomical parties are still up-country making further "fixes" and while the aeroplanes are doing their next instalment of the area.

Nowhere has more steady and rapid progress been made in air survey work than in Africa, owing to the success which has been already achieved by the Aircraft Operating Co. Ltd. in their survey of the territory of the Rhodesian Congo Border Concessions Ltd., on behalf of Minerals Separation Ltd. These operations based on N'Changa have



GREATER BRITTAIN.—Sir Harry Brittain, M.P., of the Napier Co., flying over the Mountains of Ararat in Australia in a De Havilland 9 (Puma engine) in the course of his elevating, and elevated, tour of Victoria from the R.A.A.F. Aerodrome at Point Cook, near Melbourne.

been singularly successful now that the initial difficulties have been overcome.

Thanks very largely to the tireless energy and ingenuity of Major Charles Kennedy-Cochran-Patrick a number of quite remarkable technical advances in air survey have been made in overcoming these difficulties. Apart from such trifling details as building his own hut and hypersensitising films so as to make them usable with a colour-screen to penetrate ground-fog, Major Patrick has invented a new type of wind-gauge bearing-plate to help photographic pilots to keep on their course, and he has also invented a ground-fog horizon measure. And in addition he has built on the spot at N'changa a short-wave wireless set for communication between machines and the astronomical fixing parties on the ground.

The Aircraft Operating Company's survey party in Rhodesia has now received from the Northern Rhodesian Government a definite contract to do a map survey of the Upper Zambesi River for a distance of about 300 miles above Livingstone. This contract also includes the mapping of the two tributaries of the Zambesi, the Lungwebungu as far as the Angola boundary, and about 150 miles of the Kabompo river.

For this survey one of the two D.H.9s, with Nimbus engine, which was used for the Congo Border survey will be sent down to the Zambesi, from which it will operate on floats. These floats, which are the identical floats built by Short Brothers for the machine used by Mr. (now Sir Alan) Cobham for his Australian voyage, left England on Oct. 20.

Besides doing a general survey of the river and the adjoining country from a height of about 10,000 feet, large scale photographs of the numerous rapids are to be taken so as to get in all details of rock formations which are a danger to navigation.

Besides this contract, which is definitely fixed, a further contract will probably have been made, by the time these notes appear, for a supply of maps of the Congo Border area made from grid pictures, such as that reproduced herewith. With the help of Major Logan, who was one of the earliest air map makers in Canada, and who has since had a great deal of experience with the Fairchild Company in the United States, Major Cochran-Patrick has produced improvements on the Canadian method of grid-mapping. And from them extremely accurate maps can be produced.



GRID-PHOTOGRAPHY IN AFRICA.—This shows a grid of part of the territory of the Rhodesian Congo Border Concessions Ltd., taken by the Aircraft Operating Co. Ltd. The Eagle camera with which it was taken is mounted in a new gimbal mounting designed by the staff in N'Changa. This, mounted below the fuselage, makes possible the swinging of the camera all round the horizon without interference from wing-tips or tails. In this particular instance the only interference is the silhouette of the tail-skid seen in the photograph, which, however, does not interfere with the part of the photograph which is desired for use, and may act as a rather useful indication of the swing of the machine from a straight line. The photograph shows the curious bare strips which occur in the bush in this country. They might be mistaken for lakes or swampy parts of a river, but they are in fact patches covered only with grass and completely bare of trees or scrub. Their peculiarity is that they seem to run in almost parallel strips, three of which may be seen in the right foreground and a further series in the background just to the left of the tail-skid. They seem to indicate some peculiarity of the surface soil influenced by what is under it. These aerial indications may have interesting geological results.

A recent addition to the Aircraft Operating Company's Survey party at N'Changa is Captain B. Roxburgh-Smith who is evidently quite a discovery. He is one of the comparatively early R.F.C. pilots of the War 1914-18, and on leaving the R.A.F. after the War he went to Central Africa and settled down to agricultural pursuits. Hearing of the Aircraft Operating Company's work, and wishing to return to flying after so many years' absence, he communicated with Major Hemming, the Managing Director of the firm, who realised that a steady going experienced pilot who also knew the manners and customs of Central Africa would be very useful.

He put Captain Roxburgh-Smith in touch with Major Cochran-Patrick, who, after giving him a few tests to see whether he had forgotten how to fly, engaged him on the spot. And one learns that in spite of Captain Roxburgh-Smith's lengthy absence from the air, he has turned out to be not only a very able pilot but a most competent air surveyor.

In addition, one gathers that the Aircraft Operating Company Ltd. is in negotiation for some very important air survey contracts in India, which is natural, seeing that Colonel Crosthwait, one of the directors of the firm, was for many years Superintendent of Land Surveys in India.

Originally the firm's intention was to confine its operations to Europe, Africa and South America, but evidently the lure of the East has been too much for it.

Day by day the interest in air survey work among the High Authorities of the World is increasing. The Air Services of all foreign nations are informing themselves more and more on the technical side of air mapping.

From the crude air photography which was good enough for mapping trench-lines and defence works during the War 1914-18, a precise science of air-surveying is now being evolved. So that by the time the next war begins we may hope to be able to map in a few days areas of enemy country which have never been mapped before.

In the meantime there are plenty of openings for mapping undeveloped areas within the British Empire. Outside his own job there is none so conservative as the Empire-making pioneer. And the Aircraft Operating Co. is doing most valuable work in proving to Colonial Administrators and to the men on the spot in commercial concerns working on the outskirts of Empire the very real benefits of Air Survey.—C. G. G.

The Lion's Share

in Great Britain's air triumph —some Press comments

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"The Napier engine has now definitely proved itself to be the best speed engine in the world." *Aeroplane*, 5.10.27

"The race demonstrated conclusively the superlative quality of British engines." *Morning Post*, 27.9.27

"It was a fair and square victory on engine design." *Flight*, 29.9.27

"In the making of motors Britain is predominant. Napier machines deserve all the praise we can give." *Manchester Dispatch*, 27.9.27

"It is a distinct victory for the British engine." *Cork Examiner*, 27.9.27

"It was in the workshops of the Napier firm that the foundations of the great triumph were well and truly laid." *Westminster Gazette*, 29.9.27

"It was a contest of reliability between the manufacturers of rival types of aero engines and Britain won. Her engines are supreme throughout the world." *Oldham Chronicle*, 1.10.27

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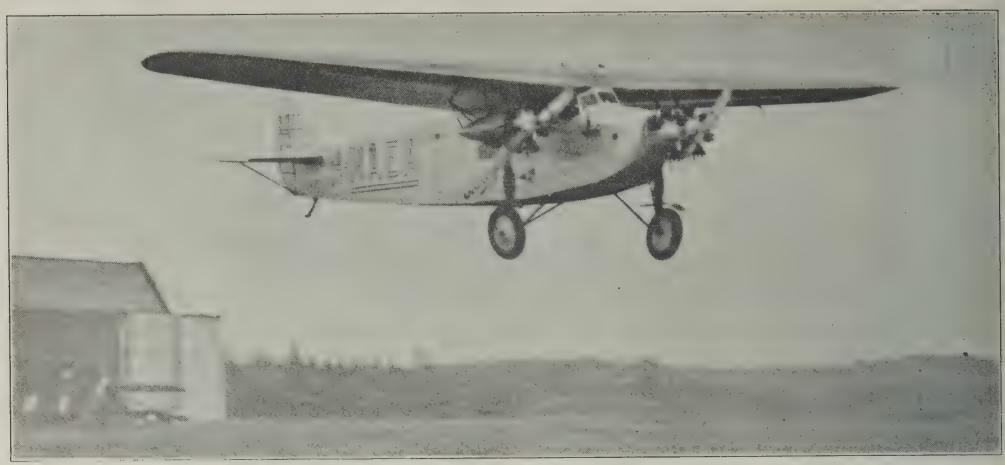
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AMSTERDAM—BATAVIA AND BACK.—The Fokker F.VII-3m (three Armstrong-Siddeley Lynx engines).

On Oct. 28 Lieut. Koppen, Mr. Fryns and Mr. Elleman arrived at Amsterdam on their Fokker F.VII-3m. (three 185 h.p. Armstrong-Siddeley Lynx engines) with the mails from Batavia, thus completing the round flight from Amsterdam to Batavia and back in 19 flying days and after only 28 days absence from Holland.

They left Amsterdam on Oct. 1 to fly to Batavia and back, the object of the flight being to investigate the possibilities of a regular air mail service with the Dutch East Indies. They reached Batavia on Oct. 10, having covered the 8,750 miles in 75 flying hours at an average speed of 115 m.p.h.

The following is the itinerary of the outward journey, together with the actual flying times :—

Oct. 1, Amsterdam—Sofia (1,260 miles), 11 hours. Oct. 2, Sofia—Aleppo (980 miles), 8 hours. Oct. 3, Aleppo—Bushire (1,135 miles), 8 hours. Oct. 4, Bushire—Karachi (1,150 miles), 10 hours. Oct. 5, Karachi—Allahabad (950 miles), 8 hours. Oct. 7, Allahabad—Calcutta (490 miles), 5½ hours.

Oct. 8, Calcutta—Bangkok (1,160 miles), 10 hours. Oct. 9, Bangkok—Singapore (1,000 miles), 9½ hours. Oct. 10, Singapore—Batavia (625 miles), 5¼ hours.

They remained in Batavia until Oct. 17 to enable the Dutch mail which they carried to be distributed and answered.

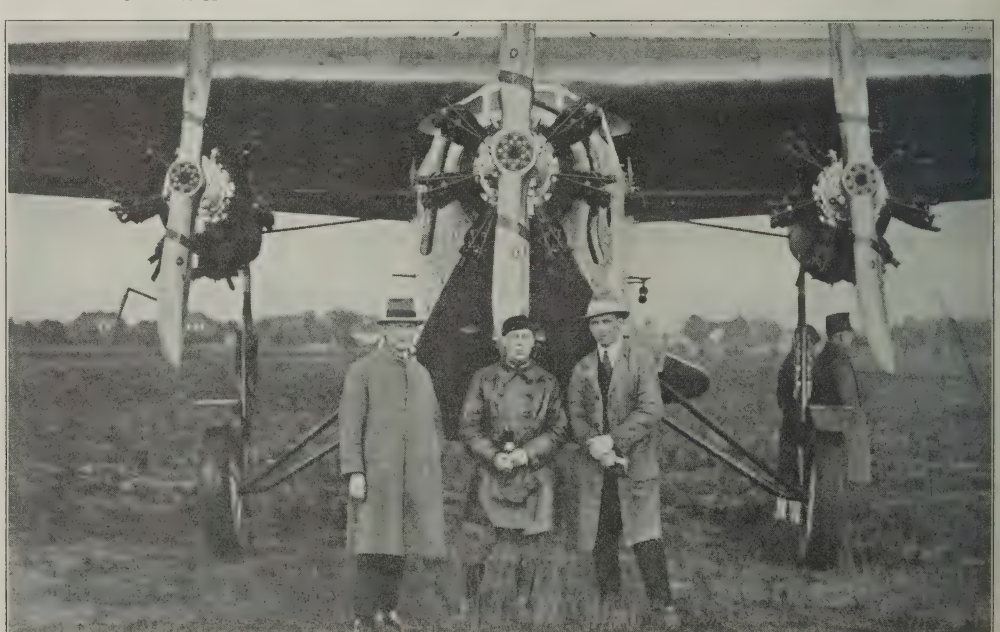
On Oct. 17 they left Batavia with the return mail, consisting of approximately 3,000 postcards and 1,300 letters. On landing at Bangkok on Oct. 18 they unfortunately damaged their undercarriage, which delayed them for three days while repairs were being made in the Siamese Government shops.

They started again on Oct. 21 and arrived at Amsterdam on Oct. 28, thus completing the return journey in 78¾ flying hours at an average speed of 111.3 m.p.h.

The itinerary of the return journey is as follows :—

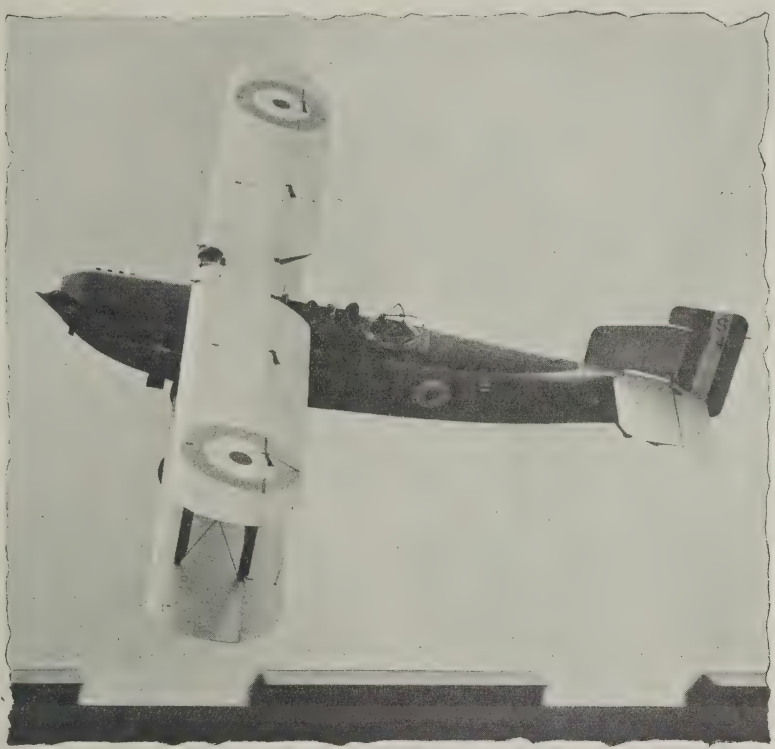
Oct. 17, Batavia—Singapore (625 miles), 6 hrs. 17 mins. Oct. 18, Singapore—Bangkok (1,000 miles), 9 hrs.

Oct. 21, Bangkok—Calcutta (1,160 miles), 9 hrs. 23 mins. Oct. 22, Calcutta—Allahabad (490 miles), 4 hrs. 40 mins. Oct. 23, Allahabad—Karachi (950 miles), 9 hrs. 56 mins. Oct. 24, Karachi—Bunder Abbas (745 miles), 6 hrs. 47 mins. Oct. 25, Bunder Abbas—Baghdad (995 miles), 7 hrs. 57 mins. Oct. 26, Baghdad—Aleppo (500 miles), 4 hrs. 35 mins. Oct. 27, Aleppo—Belgrade (1,375 miles), 10 hrs. 40 mins. Oct. 28, Belgrade—Amsterdam (1,015 miles), 9 hrs. 30 mins.



THE MOTIVE POWERS.—Lieut. Koppen, with Mr. Fryns (left) and Mr. Elleman, and the three Lynx engines.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

The exceptional adaptability of the IIIF is doubly extended by the rapidly interchangeable sea and land undercarriages.

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FAIREY AIRCRAFT

From this it will be seen that the whole out-and-home journey of 17,500 miles was done in 153¾ flying hours, and within 28 days, which included one day's stop at Allahabad on the outward journey, seven days' stop at Batavia and three days' stop at Bangkok on the return journey.

Compared with this it is interesting to note that the mail steamer takes 33 days to reach Batavia from Amsterdam.

The machine used was a standard Fokker three-engined commercial monoplane fitted with three 185 h.p. Armstrong-Siddeley Lynx engines. The only alteration to the machine was the installation of four extra tanks in the fuselage which gave the machine a range of 13 hours.

The machine and engines behaved splendidly throughout the flight.

This flight is particularly noteworthy from the British point of view because it is the first time that British air-cooled engines of medium power have been used in a multiple-engined aeroplane on one of the World's great flights, of what one may call the "high-pressure" variety,—that is to say a flight in which long distances have been covered at high speeds on successive days. The Armstrong-Siddeley Lynx engines came through without giving any trouble whatever, and their makers have every reason to be proud of them.

ON FLYING CLUB "AT-HOMES."

This seems to be the right moment for the Flying Clubs to think about what they are going to do not only to maintain but to increase the interest in the clubs during the Winter. Apart from social gatherings, such as dances and bridge parties and so forth, practical interest in flying must be maintained if the clubs are to increase their activities next year.

The hours of daylight, from now until about April at any rate, are too short to organise regular flying meetings. But the probabilities are that so far as flying weather is concerned the next six months will be more suitable for flying than any time during our late disastrous Summer. So something ought to be done about it.

At the very cheery gathering of the Suffolk Aeroplane Club at Hadleigh last Sunday the Hon. Lady Bailey, the President of the Club, made a suggestion which one commends heartily to all the other clubs. This is that each club should, at least once during the Winter, organise an "At Home" to which all and sundry should be invited either as aviators or spectators.

Preferably these At Homes should be held on a Sunday, because then people in the neighbourhood who are really keen on seeing flying can go to the meeting in the morning, lunch at the aerodrome (either at the club house or picnic fashion), and go home in good time in the afternoon, thus seeing several hours' flying. Visitors by air can fly over to their hosts' aerodrome on the Saturday afternoon and can fly back either on the Sunday afternoon or on the Monday morning.

Judging by the success of the Suffolk Club's At Home, such gatherings are likely to appeal strongly both to aviators and to the public. There were twenty pilots with their machines at Hadleigh, eighteen of which were visitors —the President in her own Moth, and the Club's Bluebird being the other two. And as none were Service machines, the gathering was a fair gauge of what might be expected at such meetings elsewhere.

The whole show was a great success. The visiting aviators seemed to be much more pleased with taking up joy-riders and, in the intervals, chatting with their friends than they have been elsewhere, when they have been continually harried by stewards to get their machines on the line in time for unimportant races.

Furthermore, at a meeting of this sort, if the staff-work of the joy-riding is well done, the general public really have a much better chance of inspecting the machines at close quarters and taking a personal interest in them than they have when the machines are continually racing. When not actually in use the machines can be brought up alongside of the railings for close inspection, or even put into an enclosure to which the public can be admitted, much as they are to the Machine Park at the R.A.F. Display.

Although the Suffolk Club was not in a financial position to advertise the event largely, some hundreds of the best people in the County, and some thousands of others, came to see the show. And somewhere about four hundred joy-riders were taken up. At least twice as many could have been taken if machines had been available.

It was quite a pity that Imperial Airways did not send one of its mass-production joy-ride machines. Even as it was splendid work was done in making Suffolk air-minded. And undoubtedly the Suffolk Club deserves to take its place among the approved subsidy-earning clubs of the country.

One hopes that the Lord-Lieutenant of the County, Sir Courtenay Warner, and the Mayor of Ipswich, Mr. C. E. Tempest, will be successful in their efforts to get the Club on the approved list. It certainly deserves such a reward for the plucky way it has set to work, and for the results it has achieved already without the help of such wealthy firms or individuals as have done so much to set other clubs on their feet—sometimes with not very encouraging results.

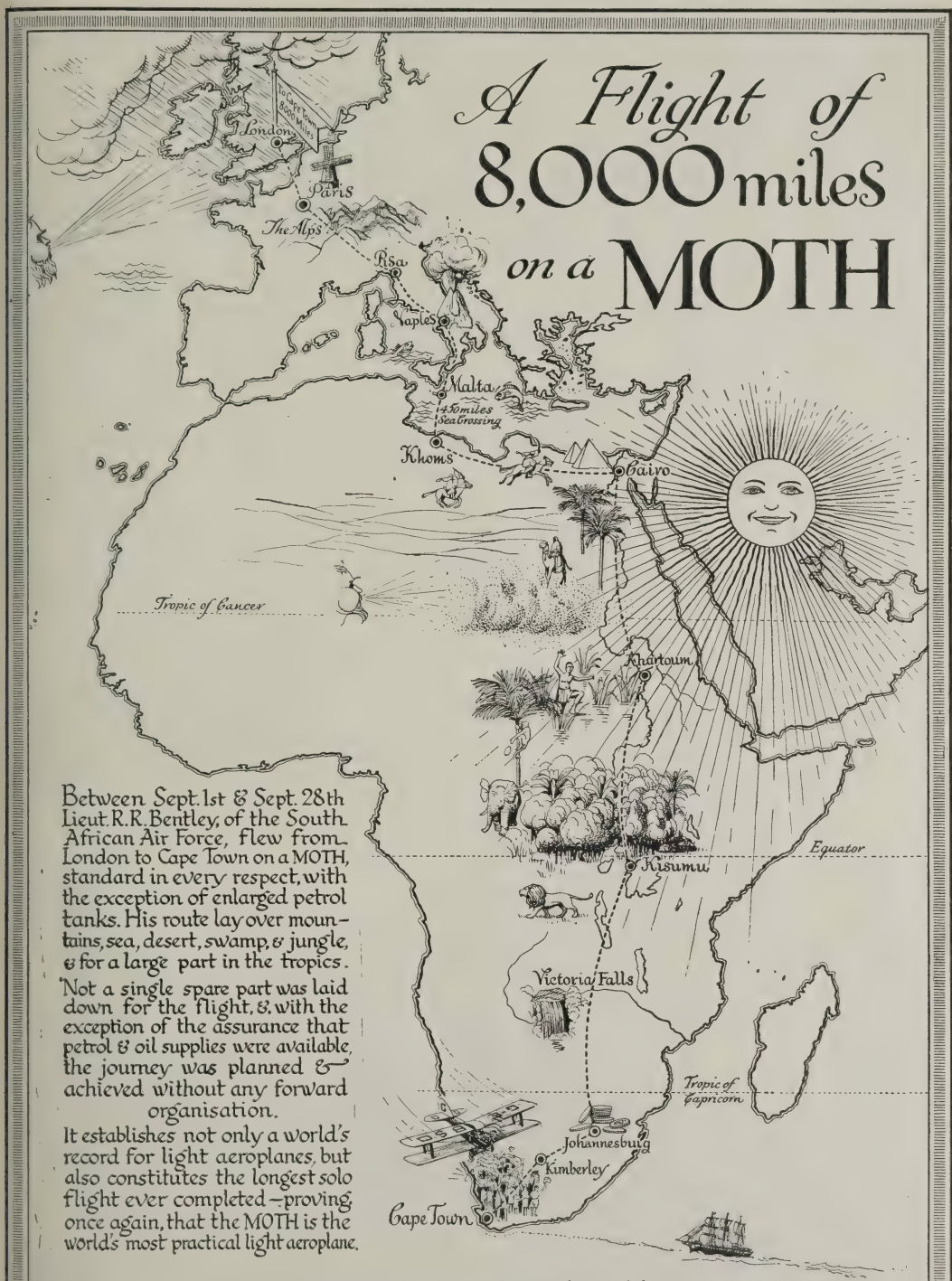
At any rate, the Sunday At Home scheme is worth developing. And credit for it must be given to the Suffolk Club and its Lady President.—C. G. G.

A BAD BREAK.

Much amusement has been caused in the University of Cambridge by an error in *The Evening Standard* of Oct. 25, perpetrated by the writer of its Society Gossip section—of the kind so delightfully caricatured in *Punch* lately by A. P. H.'s young friend Topsy. The writer, whose style strongly resembles that of the imaginary "Little Lord Fatface," after recording the great discovery that there is to be an Air Squadron at Oxford (where, as a matter of fact there has been one in process of formation for about two years), says, "There is no hint as yet of a Cambridge Air Squadron, but even should that come about a sort of



GETTING TO WORK.—The Suffolk Aeroplane Club's Blackburn Bluebird (Genet engine), piloted by Sjt. Lowdell at the Club's Sunday At Home at Hadleigh.—(*"Aeroplane" photograph.*)



The MOTH is designed and manufactured by
THE DE HAVILLAND AIRCRAFT COMPANY LIMITED
Stag Lane Aerodrome, Edgware, Middlesex.

aerial boat-race, under War Office regulations, is hardly conceivable."

Just what the War Office has to do with it is perhaps clear to the journalistic mind, but certainly not to anybody else. Apart from that, the Cambridge Air Squadron was fit and flying for years before Oxford ever thought of having an Air Squadron, and one gathers from people at Duxford that the present generation of Cambridge undergraduates is not only very keen on flying but is likely to turn out some exceptionally good pilots.

However, the writer of the note was evidently corrected by those who know, for he apologised handsomely to Cambridge the next day—though without enlightening his readers to the fact that the Cambridge Air Squadron is an Air Ministry affair, and has nothing to do with the War Office.

Really *The Evening Standard* ought to know better considering that it has on its staff in Mr. George Fyfe, formerly an officer of the R.A.F., one of the very few professional journalists who is thoroughly reliable when writing on aeronautical subjects. One suggests that in future any paragraph in which the word "air" is mentioned should be submitted to him that he may vouch for its veracity.

Having recently been lured into inflicting a lecture, *in propria persona*, on the Cambridge University Aeronautical Society one can vouch personally for the keen interest which Cambridge takes in everything to do with flying. Both the Cambridge University Air Squadron and the Cambridge University Aeronautical Society are very active. And evidently the members of both organisations make the best possible use of their opportunities which are offered to them of acquiring knowledge.—C. G. G.

MORE BIRDS OF WAR.

["Nocturne Militaire." By Elliott White Springs. 284 pages; 7 half-tone illustrations. John Hamilton Ltd. 7s. 6d. Supplied by The Aeroplane Book Dept., 14, Bream's Buildings, E.C.]

Elliott Springs, late R.F.C. and R.A.F., the author of *Nocturne Militaire*, edited the diary of the late Lieutenant Grider and prepared it for publication under the title of *War Birds*. He, with Grider and Callahan, were the trio whom *War Birds* has made world-famous. And so *Nocturne Militaire* is in a manner an appendix.

One gathers that Springs was a professional journalist before the War and has pursued that nefarious calling since the outbreak of Peace. But he never writes journalese. He has complete control of the English language as spoken on either side of the Atlantic, and he handles both the dialect of the 1918 Air Force and colloquial American as easily as he handled the assorted aircraft of the period.

These stories are full of revelry by night and devilry by day, like Grider's diary, but evidently to meet the demands of the Public Mr. Springs has worked into each a "heart interest." To give him his due, he has done it in an amazingly artistic way. The female components of the stories are unusual, but they are terribly true to life, and the expected thing always happens in the most unexpected way. When the explanation of the woman in the case does come out it never happens as it would have happened in the hands of a less able artist.

One does not believe that even American aviators drank quite so much as the stories would indicate. But one does remember hearing a very young English officer (infantry) remark during the War that he was only happy when he was drunk—so Springs is not exaggerating unduly. And one does give full marks to the sportsman who concocted egg-nogg in a bath with coupled fly-swatters as a whisk.

Nobody has got better than Springs the atmosphere of that curious callousness with which people saw, either on home aerodromes or in the field, something funny in the death of men whom they did not happen to know personally, and yet felt intensely the deaths of their friends. And they were ready to risk their own lives to save a stranger, though they might laugh at the manner of his death if they failed to save him.

His description of the spinning Camels at Ayr, with the consequent daily funerals of American naval aviators, who were buried on successive days because there was only one American flag on the Station, is one of the most grimly humorous things ever written. And Paris just after the Armistice, in the grip of a million newly-arrived Americans who had won the War (to use Springs' own epithet), has never been better described. The American who fought in the War is always much harder on the American who just missed it than is anybody else. And, after all, the rest of the Allies could not have won as they did without that million unblooded Americans behind them.

Certainly nobody on this side of the Atlantic has ever described an air fight as well as they are described in this book. If the younger generation of British aviators wants to know how the old R.F.C. and later the R.A.F. fought, lived, and died, in the so-called Great War one recommends them to read *Nocturne Militaire*.—C. G. G.

AIR SURVEY LITERATURE.

The War Office has just issued a new book entitled "Simple Methods of Surveying from Air Photographs," written by Lieut. M. Hotine, R.E., research officer of the Air Survey Committee. The price of the book is 3s. 6d.

The work is based on an experimental survey of 20 square miles near Arundel. Colonel H. St. J. L. Winterbotham, chairman of the committee, has written an introduction, in which he deals with the cost of doing the work.

Another work of value to would-be air surveyors is "Simple Methods of Surveying from Air Photographs," by Capt. F. Tymms, who is now Air Ministry Superintendent, Cairo-Karachi, Civil Air Service, or more briefly Civil Air Traffic Officer in Egypt, after having been for several years the Air Navigation Specialist in the Department of Civil Aviation. His book costs 2s.

Yet another book worth having is "A Graphical Method of Plotting from Air Photographs" (price 3s.), by Lieut.-Col. King. This book is issued by the War Office, which controls the Ordnance Survey.

All may be had from The Aeroplane Book Department, 14, Bream's Buildings, London, E.C.4.

THE 1928 SCHNEIDER CONTEST.

The recommendations of the Schneider Committee, 1927, have been considered by the Committee of the Royal Aero Club and referred to the Schneider Committee, 1928.

The following Committee was appointed for the Schneider Contest of 1928:—

Royal Aero Club:—Lieut.-Col. M. O'Gorman, C.B., Lieut.-Col. W. A. Bristow, Lieut.-Col. M. O. Darby, O.B.E., Capt. C. B. Wilson, M.C.

Air Ministry:—Wing Cdr. S. W. Smith, O.B.E., Major J. S. Buchanan, O.B.E.

Society of British Aircraft Constructors:—Three representatives to be nominated by them.



A SPEED SHOW.—Mr. Louis Paget on the Westland Widgeon (Cirrus) at Hadleigh.—("*Aeroplane*" *photograph.*)

Blackburn
— IRIS —

THE FLAG-SHIP. The Secretary of State for Air going aboard the BLACKBURN "IRIS" (three Condors) for the cruise to the Baltic.

See "Aeroplane" Aug. 17th 1927.

On August 12th the "IRIS" left England. She has now covered a distance of 5,500 miles which included calls at Oslo, Copenhagen, Gydnia, Danzig, Helsingfors, Stockholm & Helden. When not actually flying the "IRIS" has been moored in harbour. She has encountered heavy seas & proved beyond doubt her reliability & seaworthy qualities.

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THE ROYAL AIR FORCE.

The London Gazette.

Oct. 25.

General Duties Branch.—Plt. Off. E. M. Thompson is promoted to the rank of Flg. Off. (Mar. 12) (substituted for the notification in the *Gazette* of Sept. 13); E. E. Blackwell, Lt., R.N., Flg. Off., R.A.F., relinquishes his temp. comn. on return to Naval duty (June 22); Flg. Off. R. H. Rose is transferred to the Reserve, Class A (Sept. 20) (substituted for the notification in the *Gazette* of Sept. 20); Plt. Off. on probation C. Pawley resigns his S.S. comn. (Oct. 20); the S.S. comn. of Plt. Off. on probation H. N. C. Williams is terminated on cessation of duty (Oct. 15).

Stores Branch.—The following are granted perm. comns. as Plt. Offs. on probation with effect from and with seniority of Oct. 15:—C. J. Cousins, B. Allen, C. Thripp, H. W. Penney (Capt., 17th Lond. Regt., T.A.), C. L. Thompson, E. F. Smith, A. Connock, M. M. McMullan, H. J. Butler, H. A. Wrigley (Sec. Lt., Northumberland Fusiliers, T.A.), C. M. P. Hartley, O. D. Allerton, T. A. Head, M. E. O'B. Atkinson, D. G. McDiarmid.

Medical Branch.—The following Flg. Offs. are promoted to the rank of Flt. Lt. (Oct. 28):—G. M. Anderson, M.B., B. L. Edwards, M.B.

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. as Plt. Offs. on probation:—Class A.A.—G. T. Clark (Oct. 11); J. Reekie (Oct. 11).

Special Reserve.—J. F. R. Hunter (Oct. 25); Plt. Off. M. J. Berlyn is promoted to the rank of Flg. Off. (Oct. 19). The following are transferred from Class A to Class C:—Flg. Offs.—E. P. Clacey (Sept. 23); F. G. Sinclair (Oct. 7); L. S. Webb (Oct. 7). Plt. Off.—V. P. Field (Oct. 25).

Plt. Off. on probation N. N. Birks is transferred from Class A.A. to Class C (Oct. 19); Flt. Lt. A. L. Lingard relinquishes his comn. on completion of service, and is permitted to retain his rank (Oct. 24). The following Flg. Offs. relinquish their comns. on completion of service:—D. A. Parrott (Sept. 18); A. Turner, M.M. (Oct. 12).

Accountant Branch.—Flg. Off. A. C. Pritchard resigns his comn. (Sept. 7).

Appointments.

Week ending Oct. 31.

General Duties Branch.—Wing Commander J. Sowrey, A.F.C., to H.Q., Middle East, for Technical Staff Duties, 14/10.

Squadron Leader R. L. Stevenson, M.B.E., to No. 26 Sqdn., Catterick, 11/10

Flight Lieutenants R. Menzies, to No. 26 Sqdn., Catterick, 11/10. E. J. McLoughlin, to No. 111 Sqdn., Duxford, 3/11. R. W. Hill, to School of Photography, Farnborough, 14/11. G. S. N. Johnston, to Air Ministry, Directorate of Operations and Intelligence, 1/11. E. F. Waring, D.F.C., to H.Q., Coastal Area, 1/11. N. P. Dixon, A.F.C., to No. 216 Sqdn., Middle East, 12/10.

Flying Officers F. Simpson, to Aircraft Depot, India, 30/8. G. A. Simons, to Aircraft Park, India, 1/10. J. E. Davies, to No. 216 Sqdn., Middle East, 27/10. R. W. Steele, to No. 55 Sqdn., 'Iraq, 6/10. R. D. Adams, to No. 5 Sqdn., India, 1/10. S. G. Connolly, to R.A.F. Base, Gosport, 12/11. F. F. W Hall, to School of Photography, Farnborough, 14/11. R. H. Barlow, to No. 443 Flight, 24/10. V. G. A. Hatcher, to R.A.F. Training Base, Leuchars, 24/10. J. F. P. Pain, to No. 16 Sqdn., Old Sarum, 17/9. A. C. H. Sharp and N. C. Pleasance, to No. 26 Sqdn., Catterick, 11/10. S. J. Gilbert, to No. 4 Sqdn., Farnborough, 30/8. J. S. Phillips, to H.Q., Middle East, 14/10. C. Heard-White, to Armoured Car Wing, 'Iraq, 30/9.

Pilot Officers M. A. Smyth, to R.A.F. Depot, Uxbridge, 19/10. A. K. K. Calwell and B. M. Cary, to No. 26 Sqdn., Catterick, 26/10. N. W. K. Seeman, to Home Commn. Flight, Northolt, 18/10. P. H. Jackson, to R.A.F. Depot, Uxbridge, 14/10. B. H. Ashton, to No. 70 Sqdn., 'Iraq, 3/10. H. V. Forbes, to No. 30 Sqdn., 'Iraq, 3/10.

Stores Branch.—Flying Officers J .Davison, to H.Q., Cranwell, 30/10. H. N. Davies, to No. 6 Sqdn, 'Iraq, 14/10. F. W. Felgate, to No. 70 Sqdn., 'Iraq, instead of to No. 30 Sqdn. as previously notified, 20/9.

Pilot Officer R. B. Horstmann, to No. 26 Sqdn., Catterick, 11/10.

Accountant Branch.—Flying Officers J Lambie, to No. 26 Sqdn., Catterick, 11/10. E. Smith, to Station Accounts Office, Hinaidi, 1/10. W. R. Donkin, to H.Q., Accounts Office, 10/10.

Medical Branch.—Squadron Leader W. F. Wilson, M.C., M.B., to H.Q., Middle East, 14/10.

Flight Lieutenant (Q.Master Medical) W. P. Connolly, to R.A.F. Hospital, Halton, 15/11.

Flying Officers R. G. Freeman, to No. 2 F.T.S., Digby, 17/10. L. Freeman, to No. 26 Sqdn., Catterick, 15/10.

Chaplains Branch.—The Rev. G. L. Robinson, D.S.O., to No. 47 Sqdn., Egypt, 15/10

Princess Mary at Halton.

On Oct. 31 Her Royal Highness Princess Mary, Viscountess Lascelles, G.B.E., opened the new R.A.F. Hospital and Nursing Sisters' Quarters at Halton. The hospital will now be known as "Princess Mary's Royal Air Force Hospital."

Her Royal Highness was received by Sir Samuel Hoare and Air Vice-Marshal Lambe (A.O.C. Halton) and the Matron in Chief, Miss Cruickshank, C.B.E.

Sir Samuel Hoare said that the new hospital would be one of a strictly limited number of Air Force hospitals. It is not the intention to duplicate hospital accommodation where military, naval and civil hospitals are available. Last year more than 1,200 R.A.F. cases were admitted to naval and military hospitals. These figures proved the sincerity of the desire to make use of suitable accommodation wherever it might be and not to adopt the selfish and extravagant policy of insisting upon special Air Force accommodation for every Air Force case.

Here at Halton was the biggest Air Force station in the world, situated in a district where there was no alternative accommodation. Hitherto the hospital had been housed in huts erected early in the war and converted so far as they could be for medical use. The huts were expensive and inconvenient and it became absolutely necessary to replace them with a permanent building.

The new hospital contained 204 beds, including 20 for officers, 6 for nursing sisters and 23 for the wives and children of airmen. It would be the hospital for the great Air Force station of Halton, but it would also be a hospital for all Air Force cases outside convenient range of naval, military or civil accommodation. To it would come Air Force invalids from overseas.

It was designed to be capable of economical administration. The wards and administrative block were in parallel lines so as to make administration economical and expansion easy. Arrangements had been made for getting as much sunlight and air as possible, for reducing dust and labour in cleaning and for making the wards, particularly the children's wards, as bright and attractive as possible. The operating theatre was equipped with the most up-to-date lighting. Its walls were specially tinted to suit the eye of the operator and there were lamps that threw no shadow.

The wards were floored with rubber—thanks to the generosity of the Rubber Growers' Association—and there was a flat roof for natural sun treatment.

The Air Force was rightly proud of its medical and nursing service and of the splendid work that its medical officers and nurses, often in the face of great difficulties, had carried out both at home and abroad. Already they had made their mark in various branches of medical science, and had helped to make the standard of health in the Air Force a very high one.

There was no Service in the world where a high standard of health was so constantly needed, or where the most efficient medical and surgical help was more urgently required to meet the inevitable strains and risks of life in the air. The medical service and the Air Force as a whole would now have a hospital fully equipped to meet their needs

In conclusion, Sir Samuel said that Her Royal Highness' presence and interest in the work of the Nursing Service was a great encouragement to all. They were sincerely grateful, therefore, to Her Royal Highness for performing this ceremony and assured Her Royal Highness that she would have no reason to regret a connection that they hoped would be a very long one with the Royal Air Force Nursing Service and with the hospital.

Thereafter Princess Mary declared the hospital open and planted a tree in the garden with a suitably engraved spade made by Aircraft Apprentices.



AUSTRALIA'S AIR FLEET.—The first of the Supermarine Southampton's (Napier Lions) for the Royal Australian Air Force.

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H.R.H. Princess Mary, Miss Cruickshank (Matron in Chief, R.A.F.M.S.) and Sir Samuel Hoare, at Halton.

The Far East Flight.

On Oct. 28 the four Supermarine Southampton flying-boats (Napier Lion engines), under the command of Group Capt. Cave-Browne-Cave, which are engaged on a flight from England to Australia and Singapore, arrived at Phaleron Bay, Athens, from Brindisi.

On Oct. 29 they flew from Athens to Aboukir.

The R.A.F. Egypt-Nigeria Flight.

On Oct. 27 three Fairey III.F biplanes (450 h.p. Napier Lion engines), flown by Wing Cdr. F. W. Stent, M.C. (in command), Flt. Lt. E. R. C. Hobson, D.F.C., and Flt. Lt. P. Murgatroyd, R.A.F., left Heliopolis on a service flight to Kano, Nigeria. They reached Wadi Halfa later in the day.

On Oct. 28 they flew from Wadi Halfa to Atbara, and later the same day they reached Khartum.

Thence they reached El Obeid and El Fasher.

The flight was due at Kano on Nov. 1. Here it will carry out various manœuvres, and the return flight will begin on Nov. 20, to be completed at Heliopolis on Nov. 29.

It will be remembered that a similar flight was made over the same route in Oct.-Nov. 1925 by D.H.9as of 47 Squadron under Sq. Ldr. Coningham.

Wing Cdr. Stent has had much experience of aviation in relation to "coloured folk," for during the War 1914-18 he was himself the complete air force of the King of the Hedjaz against the Turkish Army in the vicinity of Mecca and Medina. Mention is made of his work there by Lt.-Col. Lawrence in "Revolt in the Desert."

No. 26 Squadron.

The R.A.F. Appointments List for the present week shows the appointment of several officers to No. 26 Squadron, Catterick.

No. 26 Squadron has been formed for Army Co-operation Duties and will consist for the present of H.Q. and one Flight. The Squadron is stationed at the resuscitated R.A.F. aerodrome at Catterick in Yorkshire. It is to be equipped with Armstrong-Whitworth Atlases.

The original No. 26 Squadron, R.F.C., was formed in England in 1915 from the personnel of the South African Aviation Corps who had taken part in the operations in German South West Africa. The personnel of this Corps was named No. 26 (South African) Squadron, R.F.C., and ordered to East Africa.

The Squadron was equipped with B.E.2cs, and B.E.2es and a few of the Henry Farman all-steel machines that had been used in S.W. Africa. It landed at Mombasa on Jan. 31, 1916.

The Squadron took part in the operations which resulted in the enemy being driven out of the Kilimanjaro area in February and March of that year.

In spite of the difficult nature of the country and its peculiar climatic conditions the Squadron did a large amount of valuable work both in reconnaissance and bombing and in July was established at M'Bagui with advanced landing grounds.

In September, 1916, the Squadron was split up and the Flights were attached to the forces in different theatres of the operations.

In January, 1917, the Henry Farmans were withdrawn and the Squadron was equipped solely with B.E.s.

No. 26 Squadron continued to supply co-operation throughout the advance through German East Africa and at the conclusion of the operations in December, 1917, the scattered Flights were assembled at Cape Town.

Unfortunately no further reference to No. 26 Squadron can be traced.

If anyone who served with the Squadron would care to supply any further facts for the benefit of the members of the newly-formed No. 26 (Army Co-operation) Squadron, R.A.F., THE AEROPLANE will be very glad to publish them.

Our Under-Secretary in Canada.

On Oct. 30 Sir Philip Sassoon, Under-Secretary of State for Air, flew from Buffalo to Ottawa in an aeroplane belonging to the U.S. Air Corps. He was met at Ottawa by the Canadian Minister of Defence and entertained at lunch by the Governor-General, Lord Willingdon. At 17.00 hours the same day Sir Philip left Ottawa to return to New York.

Wing Cdr. John Sowrey, A.F.C.

Wing Cdr. John Sowrey, A.F.C., whose appointment to H.Q. Middle East Command for Technical Staff Duties is dated Oct. 14, 1927, was detached from The Queen's Regiment to the R.F.C. in 1915. He served with distinction during the War 1914-18 and was awarded the Air Force Cross in the *Gazette* of Nov. 2, 1918. He learned to fly on a Maurice Farman biplane at the Birmingham Aerodrome and his Royal Aero Club Certificate No. 1481 is dated July 29, 1915.

After the War he joined the R.A.E., Farnborough, for a course of instruction which was followed by a course at the London University in 1921. In August, 1922, he was posted to the Ground Wing at Cranwell and in January, 1923, to the Central Flying School, Upavon. In 1926-7 he passed out of the R.A.F. Staff College, Andover. He was promoted to the rank of Wing Commander in July, 1927. He is a qualified Engineering Officer.

A Naval Appointment.

On Oct. 31 Captain O. H. Dawson, R.N., late in command of H.M.S. *Capetown* in the West Indies, was appointed for a short course in aerial navigation at the R.A.F. Stations at Lee-on-Solent and Calshot. Captain Dawson is a navigating specialist, and at the time of his promotion in 1923 was Master of the Fleet on the Staff of Admiral De Robeck in H.M.S. *Queen Elizabeth*.

No. 3 Squadron Dinner.

The fourth Annual Dinner of No. 3 Squadron, R.F.C., and No. 3 (Fighter) Squadron, R.A.F., will be held at the Trocadero at 19.45 hrs. for 20.00 hrs. on Friday, Dec. 2, 1927.

Air Marshal Sir John Maitland Salmond, K.C.B., C.M.G., C.V.O., D.S.O., who commanded No. 3 Squadron, R.F.C., when it went to war in 1914, will take the chair.

Tickets at 12s. 6d. (wines extra, gratuities included), will be obtainable at the dinner.

Former members of the Squadron wishing to attend are requested to inform: The Secretary, Re-Union Dinner Club, No. 3 (Fighter) Squadron, Royal Air Force, Upavon, Wilts.

Rugby Football.

On Oct. 29 the R.A.F. Cadet College, Cranwell, were beaten by the Honourable Artillery Company at the latter's ground at Armoury House, Finsbury, E.C., by 19 points to 12. The game throughout was an even one, and except for Treffry (H.A.C.), who dropped one goal and scored two tries, one of which was from a perfectly straight run from one end of the field to the other, followed by a batch of "also rans," there was very little outstanding individual play. The handling of the Cadets was almost faultless, but somehow they just failed to defeat the slightly heavier Company to the line.

The R.A.F. led in the first half by 7 points to 4, McCullam dropping a goal and White scoring a try but they were unfortunate to lose a forward with an injured shoulder early in the game.

In the second half Pott scored a try which White converted and although playing one man short the result was in the balance right up to the last five minutes when Nathan (H.A.C.) scored in the corner after a scramble and a slide and Shepherd converted from an extremely difficult angle.

The College know how to use their hands, some of the passing being positively brilliant, and when called upon the same hands are equally sure of pulling off a safe low tackle. But nobody could catch Treffry when once he got under way.

The R.A.A.F. Supermarines.

On Oct. 29 the first of the two Supermarine Southampton flying-boats (two 450 h.p. Napier Lion engines), which have been built to the order of the Royal Australian Air Force, successfully completed its trials and is now being dismantled and packed in readiness for shipment to Australia.

The second machine is due for test but extremely rough weather has interfered with the final trials.

These two machines will be used by the R.A.A.F. for a flight from Australia to Singapore and back during the course of which they will join up with the R.A.F. Far East Flight at Singapore. They are identical with the standard R.A.F. Southampton and differ from the type of machine used on the Far East Flight in that they have the standard wooden hull instead of the new metal hull.

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ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew across the **SOUTH ATLANTIC** *in* 1922.

ROLLS-ROYCE AERO ENGINES in a Fairey seaplane flew **round AUSTRALIA** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Fokker monoplane flew from **HOLLAND** *to the* **EAST INDIES** *in* 1924.

A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

ROLLS-ROYCE AERO ENGINES in Dornier-Wal flying boats flew from **MOROCCO** *to* **SPANISH WEST AFRICA** *in* 1926.

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THE 1927 AMERICAN NATIONAL AIR RACES.

The 1927 National Air Races of the United States were held between Sept. 19-25 at Felts Field, Spokane, Wash. This was the first time that this annual event was staged in the West of the United States.

The city of Spokane made comprehensive preparations to put itself on the "aviation map." The expenses of the meeting were underwritten by prominent business interests and a strong and active committee, working in conjunction with the National Aeronautic Association of America, handled the publicity and organised the general arrangements in a very commendable fashion.

Felts Field, the Spokane Air Port, is claimed as one of the finest flying fields in the West. It is one and a-half miles long, by half a mile wide, of good surface, and is situated five miles out of Spokane.

For the meeting, all roads around the aerodrome for a distance of two miles were closed to all except cars belonging to residents within the area and ticket-holders thus eliminating the "hedge guests" and other free sightseers.

Free transportation was provided to all visiting pilots and their mechanics. And a large proportion of the city population provided free hospitality to the visitors.

The flying portion of the field was strongly fenced off and in the enclosures twelve thousand reserved seats, one hundred boxes each holding six, adequate car parks, and well-arranged scoring and announcing arrangements, were provided. With the exception of one day the enclosures were crowded and it is estimated that the total receipts for the meeting were $110,000 as against $122,500 expenses, of which $60,000 was prize money.

The Air Derbys.

As a preliminary to the meeting two long-distance races known as the New York—Spokane National Air Derby (about 2,300 miles) and the San Francisco—Spokane Pacific Coast Air Derby (about 800 miles) were held. [Queer how the 100% American respects the classic English race.—C. G. G.]

The former took place between Sept. 19-21 and the latter on Sept. 21.

Both races were divided into two classes,—class "A" for aircraft fitted with engines of from 510-800 cub. in. displacement and class "B" aircraft with standard Curtiss OX-5 or other engines not exceeding 300 cub. in. displacement.

In the National Air Derby the prizes were: class "A" $18,500, class "B" $9,750, and in the Pacific Coast Air Derby they were: class "A" $3,000 and class "B" $2,000.

The National Air Derby.

The Class "A" for the New York—Spokane race was due to leave Roosefelt Field, N.Y., on the morning of Sept. 20. This race was divided into two stages with an over-night stop at St. Paul and five intermediate five-minute stops at Cleveland, Chicago, Aberdeen, Mile City and Butte.

In this class there were fifteen entries, one of which failed to start and one was ruled out as ineligible. The actual start was delayed half an hour owing to incomplete weather reports concerning conditions over and on the far side of the Alleghenies.

The first machine away was a Buhl Airster piloted by R. E. Hudson and carrying a passenger. This machine crashed in New Jersey and both occupants were killed. All following machines left at one minute intervals and at the end of the first day's flying nine machines reached St. Paul, the first one in being E. E. Ballough in a Laird biplane (Wright Whirlwind) who covered the 1,100 miles in a little over 9 hours with C. W. Holman second on a similar machine.

On the following day all pilots got away on the last leg to Spokane but Mr. Ballough in landing at Butte made a bad landing, broke a wheel and bent his airscrew. A new wheel was fitted and the airscrew bent straight to enable him to reach Spokane but the time lost cost him first place.

The first arrival at Spokane was C. W. Holman, who, minus one tyre, made a one-wheel landing with safety. In all there were eight finishers, the first five of whom qualified for prizes of $10,000, $5,000, $2,000, $1,000. and $500.

The class "B" race for the smaller type of aircraft started on Sept. 19 and was divided into three stages with over-night stops at Chicago and Glendive and five-minute stops at Bellefonte, Cleveland, Bryan, St. Paul, Fargo, Bismark, Billings and Missoula.

The start of this class was delayed half an hour by bad weather and inadequate weather reports. In this race there were 32 entries of which 25 started.

The first machine away was J. S. Charles on an Eaglerock (Curtiss OX-5) and the remaining 24 got away at one minute intervals. The first machine to reach Chicago was Leslie Miller on an Eaglerock, followed by C. W. Meyers on a Waco 10. In all twelve machines completed the first leg and all these got away on the second to Glendive.

Nine arrived at Glendive with Miller and Meyers still in the first two places.

On the third day all machines left for Spokane and in this last lap C. W. Meyers passed Leslie Miller and thus became the winner of the first prize of $5,000. In all nine finished the first five qualifying for prizes of $5,000, $3,000, $1,000, $500 and $250.

For a first prize of $10,000 and a second of $5,000, three pilots attempted to put up a non-stop race from New York to Spokane. These were Eddie Stinson and C. A. Schiller both on Stinson monoplanes and Jack Lacey on an Air King biplane.

The artificial hill built at Roosefelt Field for the various Atlantic attempts was used for the takes-off and Stinson and Schiller both got away safely, although a gusty wind was blowing across the hill. When running down the runway the tail skid of the third machine jammed in the channel-iron tail-skid slide-way and was torn off, the result being a damaged fuselage.

Eddie Stinson was forced down with engine trouble at Missoula and Schiller ran out of petrol at Billings. The machine used by Schiller was the one on which he was to have attempted to fly from Windsor, Ont., to Windsor, England, last summer.

The Pacific Coast Air Derby.

The two classes of the San Francisco—Spokane race started on Sept. 21. The class "B" entries left one hour before sunrise and the class "A" one hour later. Eleven machines started altogether, but three were forced down en route to Spokane.

The winner of class "A" was Mr. C. Lippiat on a Travel Air biplane (Wright Whirlwind), with Lee Schoenhair, International biplane, and Vance Breese, Breese monoplane second



A POPULAR TYPE.—A Travel Air biplane (90 h.p. Curtiss OX-5 engine) of the type which won the "A" class of the Pacific Coast Air Derby and the Western Flying Trophy, at 102 m.p.hr.

Amsterdam to Batavia, and back

17,200 miles

in 19 Flying Days on

SHELL OIL

and "Undoped" Shell Petrol

World's longest air mail route

LIEUT. A. KOPPENS, of the Dutch Air Mail Service, left Amsterdam on October 1st and reached Batavia on October 10th. Started back from Batavia on October 17th and arrived at Amsterdam on October 28th.

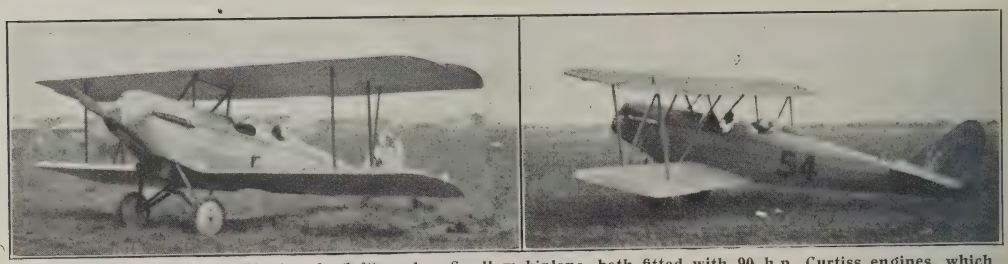
Thus a great pioneer flight opens up the way for a monthly mail service between Holland and the Dutch East Indies.

Lieut. Koppens—who was flying a Fokker monoplane with 3 Armstrong-Siddeley "Lynx" engines—used Shell Aviation Spirit (unmixed with "dope") and Shell Oil throughout.

SHELL

Motor Oil and Petrol

The Anti-Carbon Pair



NON-FINISHERS.—An Eaglerock (left) and a Swallow biplane, both fitted with 90 h.p. Curtiss engines, which started but failed to finish in the New York—Spokane Air Derby.

and third respectively. These three pilots qualified for $1,500, $1,000 and $500 in prize money.

In class "B" C. L. Langdon was first in an International biplane with D. C. Warren, Travel Air biplane and Lee Willey, Eaglerock biplane, second and third. The first two qualified for prizes of $1,000 and $500 respectively.

The arrivals of the winners of the two classes of both the New York—Spokane and San Francisco—Spokane races took place all at approximately the same time and all were warmly received by a huge crowd whose enthusiasm had previously been stirred by exhibitions of aerobatics and formation flying by U.S. Air Corps, Navy and Marine Corps aircraft.

The Spokane Air Races.

The first event of the actual race meeting was a light aeroplane race for the *Aero Digest Trophy*. Although this event attracted four entries only one machine, the Heath parasol monoplane (Henderson engine) was present so that E. B. Heath registered a walk-over both for this trophy and for *The Dayton Daily News Light Aeroplane Trophy* in Event IV.

In Event I he averaged 74.4 m.p.h. over a 60-mile course and in Event IV 73.4 m.p.h. over a 30-mile course, winning two $500 prizes and becoming the permanent possessor of the *Aero Digest Trophy*.

Event II was a light commercial speed and efficiency race for the *Aviation Town and Country Club of Detroit Trophy* and $2,500 in prize money, which attraced 22 entries of which six did not start and one failed to finish.

This event was won by J. H. Miller on the Hamilton all-metal monoplane (Wright Whirlwind) who put up a top speed of 99.09 m.p.h. with an efficiency figure of 528.4. Second and third places went to Paul Richter on an Eaglerock (Curtiss OX-5), and James Ray on a Pitcairn Sesquiwing (Curtiss C-6) with speeds of 95.39 and 138.39 m.p.h. and figures of merit of 333.916 and 331.074 respectively.

Event II was a free-for-all race for two or more seater low-powered aeroplanes for the *Western Flying Trophy* and $2,000 in prize money. Every one of the eleven starters in this race was fitted with the 90 h.p. Curtiss OX-5 engine.

The winner was Eugene Detmer on a Travel Air biplane, who covered the eight 10-mile laps at an average of 102.555 m.p.h., with Paul Richter (Eaglerock) and C. W. Meyers (Waco 10) second and third at 99.99 and 98.76 m.p.h. respectively.

Event V was for two-seat observation aircraft for the *Liberty Engine Builders' Trophy*, for which there were five U.S. Air Corps entries. These were one Curtiss XO-13A (Curtiss V-1550 engine), one Curtiss XO-13 (Curtiss V-1550 engine), and three Douglas O-2Cs (Liberty engines).

The Curtiss XO-13A piloted by Lieut. H. A. Johnson was first over the 100-mile course at a speed of 170.156 m.p.h., with the Curtiss XO-13 second at 164.039 m.p.h. and two Douglas O-2Cs third and fourth at 129.395 and 123.488 m.p.h. The fifth Douglas retired on the 12th lap.

All machines were required to carry a contest load based on engine displacement and in addition 340 lbs., equivalent to the weight of the crew.

The Curtiss XO-13A is more or less a standard Curtiss Falcon (O-1) but fitted with the new 700 h.p. high-compression Curtiss V-1550 engine and wing radiators, and the XO-13 is the same except that it retains the tunnel radiator of the standard type.

Event VI was a race for large-capacity service aircraft for the *Packard Motor Company Trophy*. There were three Air Corps entries of which the Fokker C.2 three-engined transport (three Wright Whirlwind engines) piloted by Lieut. H. W. Beaton was first at 115.198 m.p.h. and two Douglas C-1s (two Liberty engines each) piloted by Lieuts. Doolittle and Koenig were second and third at 100.243 and 81.285 m.p.h. respectively.

Event VII was a speed race for pursuit type (single-seat) Air Corps aircraft for which there were four entries. These were three Curtiss P-1Bs and one Boeing PW-9 all fitted with Curtiss D-12 engines. Lieuts. W. L. Cornelius, I. A. Woodring and L. C. Mallony were first, second and third on the three Curtiss Hawks, with Lieut. W. A. Maxwell fourth on the Boeing PW-9 at speeds of 158.4, 155, 153.8 and 153.5 m.p.h. respectively.

Event VIII was a free-for-all race for two- three- or four-seat aeroplanes for the *Seattle Chamber of Commerce Trophy* and prizes amounting to $2,500. This race was won by James Ray on a Pitcairn Sesquiwing (Curtiss C-6 engine), who covered the 80-mile course at an average of 136.145 m.p.h., with E. E. Ballough and C. W. Holman, both on Laird biplanes (Wright Whirlwind engines), second and third at 136.09 and 133.09 m.p.h. respectively. All machines in this race were fitted with Wright Whirlwind engines with the exception of the Pitcairn Sesquiwing, which has a Curtiss C-6.

Event IX, for some curious reason, does not appear in the official list of competitions.

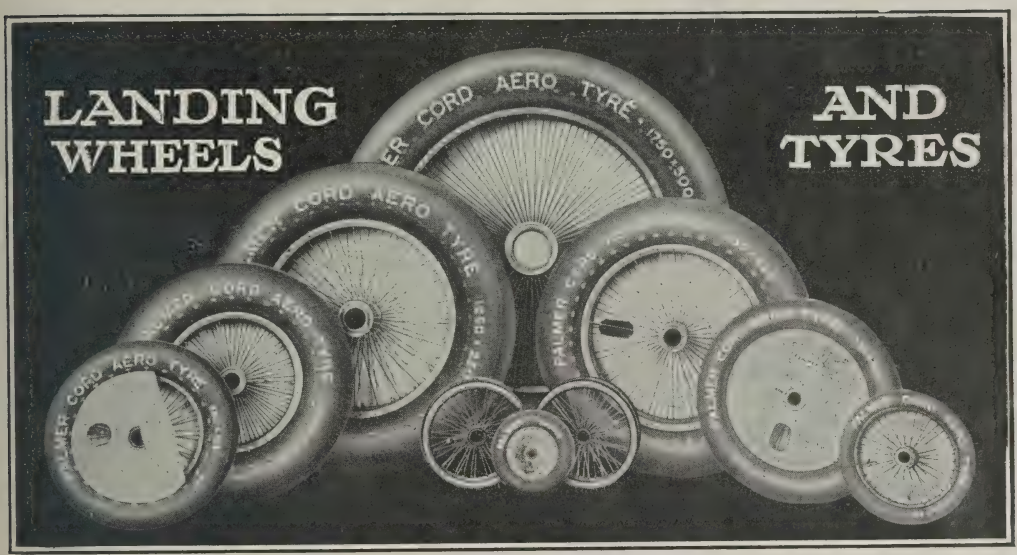
Event X was a speed race for National Guard pilots and aircraft for the *Aero Digest National Guard Trophy* and prizes amounting to $1,000. There were four starters, two Douglas O-2s and two D.H. biplanes. Capts. Simons and Neely were first and second at 110.8 and 107.5 m.p.h. on the two Douglas O-2s with Capt. Axberg third on a D.H. at 107.1 m.p.h. The second D.H. piloted by Lieut. McKensie was disqualified for fouling a pylon on the sixth lap.

Event XI was an air transport speed and efficiency race for



AN AMERICAN LIGHT AEROPLANE.—The Central States Monocoupe (75 h.p. Detroit Air-cat engine), which started but did not finish in the New York—Spokane Air Derby.

PALMER



STANDARD SIZES

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line	Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line	Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m			m/m	m/m	m/m			m/m	m/m	m/m
375×55	168	111.12	25.4	Central	700×100	112	150.	38·09	Central	1000×150	210	185.	60.32	Central
300×60	16	111.12	25.4	Central	,,	176	178.	44.45	Central	1000×180	148	220.	80.	Central
450×60	30	89.	31.75	Central	,,	179	178.	55.	132/46	,,	149	185.	55.	Central
,,	172	130.	38.09	Central	650×125	119	178.	55.	132/46	,,	155	220.	66.67	Central
575×60	21	160.	28.	Central	,,	147	178.	55.	Central	,,	166	185.	55.	125/60
,,	180	150.	38.09	104/46	,,	188	120.	34.92	Central	900×200	107	185.	55.	Central
,,	186	120.	34.92	Central	750×125	77	178.	44.45	132/46	,,	108	185.	55.	125/60
,,	90	150.	38.09	Central	,,	92	185.	55.	135/50	,,	128	220.	66.67	Central
650×65	78	178.	44.45	132/46	,,	95	185.	55.	Central	,,	137	250.	80.	Central
,,	79	178.	44.45	Central	,,	99	178.	38.89	132/46	,,	157	185.	80.	Central
,,	100	178.	38.09	132/46	,,	112	150.	38.09	Central	,,	202	185.	60.32	Central
,,	101	178.	31.75	132/46	,,	176	178.	44.45	Central	1100×220	134	220.	66.67	Central
600×75	21	160.	28.	Central	800×150	161*	185.	55.	135/50	,,	136	250.	80.	Central
,,	180	150.	38.09	104/46	,,	162*	185.	55.	Central	975×225	192	185.	60.32	Central
,,	186	120.	34.92	Central	,,	163*	185.	66.67	135/50	,,	194	185.	55.	125/60
,,	190	150.	38.09	Central	,,	169†	185.	55.	135/50	1250×250	133	250.	80.	Central
700×75	78	178.	44.45	132/46	,,	177	185.	55.	135/50	,,	154	304.8	101.6	Central
,,	79	178.	44.45	Central	,,	183	185.	55.	Central	1500×300	115	304.8	101.6	Central
,,	100	178.	38.09	132/46	,,	211*	185.	60.32	135/50	,,	126	304.8	152.4	Central
,,	101	178.	31.75	132/46	1000×150	167	185.	55.	125/60	1750×300	139	400.	152.4	Central
700×100	77	178.	44.45	132/46	,,	174	250.	80.	Central	,,	191	350.	150.3	Central
,,	92	185.	55.	135/50	,,	182	185.	55.	Central	1750×350	193	400.	125.	Central
,,	95	185.	55.	Central	,,	187	220.	66.67	Central					
,,	99	178.	38.89	132/46	,,	201	185.	60.32	125/60					

Wheels Nos. 161, 162, 163 and 211 are of stronger type than the other wheels for 800 × 150 tyres. †Wheel No. 169 is fitted with Ball Bearings. Grease gun equipment is now a standard fitting on all wheels.

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The Detroit News Air Transport Trophy and $2,500 prize money. Of the nine actual machines ready to start six were found to be ineligible owing to the fact that they had not sufficient space to carry the necessary load to qualify for the efficiency portion of the race.

Of the three remaining starters, the Hamilton monoplane flown by J. H. Miller, the Fokker Universal piloted by Jack Frye and the Ryan monoplane flown by F. M. Hawks, all with Wright Whirlwind engines, were first, second and third in the efficiency competition with 925.5, 918.7, and 905 points the order being reversed in the speed portion of the contest with 104.8, 100 and 96 m.p.h. respectively.

Event XII was a free-for-all pursuit aircraft race for *The Spokane Spokesman Review Trophy*. For this race there were five Air Corps and three Navy and one Marine Corps entries

The Air Corps entries were one Curtiss XP-6A and one Curtiss XP-6 (both with Curtiss V-1550 engines), one Boeing PW-9A (Curtiss D-12 engine) and three Curtiss P-1Bs (Curtiss D-12 engines), the Navy entries were three Boeing FB-5s (Packard 1550 engines) and the Marine Corps entry was one Curtiss F6-C4 (Pratt and Whitney Wasp engine).

Lieut. E. C. Batten on the Curtiss XP-6A won at a speed of 201.239 m.p.h.; with Lieut. A. J. Lyon on the Curtiss XP-6 second at 189.6 m.p.h.; the three Navy Boeing FB-5s, piloted by Lieuts. T. P. Jeter, G. F. Bogan, and H. E. Regan, third, fourth and fifth at 176.9, 175.9 and 172.8 m.p.h.; Lieut. C. H. Beverley on the Boeing PW-9A sixth at 169.7 m.p.h.; Lieut F. C. Rogers on the Curtiss F6-C4 seventh at 161.5 m.p.h.; and Lieuts. W. L. Cornelius and I. A. Woodring on two Curtiss P-1Bs eighth and ninth at 161.5 and 159.1 m.p.h. respectively.

Lieut. L. C. Mallory on the remaining Curtiss P-1B was disqualified for cutting a pylon on the 4th lap.

The Curtiss XP-6A is a standard P-1B fitted with a 700 h.p. Curtiss V-1550 engine and wing radiators and the Curtiss XP-6 retains the standard tunnel-type radiator of the P-1B but has the V-1550 engine in place of the D-12. The V-1550 engine fits the same engine bearers as the D-12 but gives an additional 165 h.p. at the same r.p.m. for an increase of only 40 lbs. The bore has been increased from 4½ ins. to 5⅛ ins. and the overall width reduced by a re-arrangement of the camshaft-drive gears.

Event XIII was a race for Naval and Marine Corps pursuit aircraft for the *Alexander Pantages Trophy*. This was won by Lt. T. P. Jeter, U.S.N., on a Boeing FB-5 at 177 m.p.h., with Lts. G. F. Bogan and H. E. Regan, U.S.N., second and third, also on Boeing FB-5s at 172.9 and 171.9 m.p.h. Capt. F. O. Rogers, U.S.M.C., on a Curtiss F6-C4, was fourth at 159.8 m.p.h. Lieut. Sanderson, U.S.M.C., on a Curtiss P-1B, was disqualified for cutting a pylon on the third lap.

Apart from the organised events there was a plentiful supply of inter-event incidentals consisting of stunt flying, parachute jumping, wing-walking, etc.

On one occasion nine men jumped from an Army Douglas transport within eighteen seconds, and on another, in an exhibition jump by a girl the parachute failed to release itself from the machine and left her dangling under a wing until a member of the crew crawled along the wing and cut the offending string. In another exhibition a man jumped twice from a looping aeroplane.

Throughout the meeting there was not an accident of consequence.

The most thrilling episode and one which came the nearest to unpleasantness occurred to Lieut. Towner, U.S.M.C. He was flying upside-down on a Curtiss F6-C4 in front of the crowd and underestimated the amount of height he had in which to recover to normal position. Instead of half-rolling he attempted to complete the last half of a loop and struck the ground at the bottom just as his nose was rising.

His undercarriage was wiped off and the right lower wing was so badly damaged that it hung useless from the machine. With the throttle full open he zoomed 20-30 feet over the heads of the spectators and regained sufficient control to complete a shaky circuit of the field. He made a perfect landing on the bottom cylinders of his radial engine and the tail skid ploughing up the ground for a distance of fifty feet.

TOWARDS AUSTRALIA.

On Oct. 28 Mr. W. N. Lancaster and Mrs. Keith Miller who are attempting to fly to Australia on an Avro Avian (32-80 h.p. A.D.C. Cirrus II engine) arrived at Aboukir.

On Oct. 29 they reached Heliopolis, Cairo, which may be regarded as the first important stage on their journey. They deserve congratulations on their success so far,—as the first light aeroplane carrying two people to do this journey.

Little has been heard of the incidents of their voyage, so the following telegrams received by A. V. Roe and Co. Ltd. will be found of interest :—

From Marseilles, Oct. 17 :—"Arrived Marseilles very bumpy Rhone Valley leaving for Pisa to-morrow."

From Catania, Oct. 21 :—"Excellent non-stop flight from Naples Commandant here strongly advised waiting until to-morrow strong cross wind bad visibility for Malta Air Ministry received us here Press flattering Engine Machine perfect."

From Malta, Oct. 22 :—"Machine Engine perfect leaving for Tripoli Monday."

From Bengazi, Oct. 26 :—"Machine Engine perfect yesterday flew through sand-storm wind 45 miles over hostile country perfect landing trying conditions Serti (presumably Syrte Desert) stayed night Military Camp Italian Air Force enthusiastic about performance of machine amazed myself."

From Alexandria, Oct. 28 :—"Machine O.K. Engine running perfectly."



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In this Variable Pitch Propeller the blades can be rotated about their own axes by means of a double acting cylinder carried by the hub.

The cylinder, which moves on a fixed piston, is operated by oil derived from a variable stroke reversible pump driven by the engine.

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THE FLYING CLUBS.

The Associated Clubs' General Council.

The first Meeting of the Associated Clubs' General Council will be held at the Royal Aero Club on Tuesday, Nov. 29 next, at 11 a.m. Several important matters are down for discussion including the fixing of a definite Racing Programme for 1928, and the revision of the Tests for an "A" Licence.

The following Clubs are represented on the General Council:—The Royal Aero Club, Bristol and Wessex Aeroplane Club, Felixstowe Light Aeroplane Club, Halton Aero Club, Hampshire Aeroplane Club, Lancashire Aero Club, London Aeroplane Club, Midland Aero Club, Newcastle-upon-Tyne Aero Club, Norfolk and Norwich Aero Club, Royal Aircraft Establishment Aero Club, Suffolk Aeroplane Club, Yorkshire Aeroplane Club.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W. 1.]

Report for week ending Oct. 30.

Flying Time 19 hr. 45 min. *Instruction* 12 hr. 10 min. *Soloists* 6 hr. 30 min. *Passengers* 1 hr. 5 min. *Instruction.—With Mr. F. G. M. Sparks*—A. J. Richardson, R. G. D. Edkins, A. Fowler, H. B. Michelmore, J. Bickley, G. Clair, Miss Fletcher, S. Burt, C. G. Black, Dr. Cook, H. Solomon, F. C. Fisher. *With Mr. S. L. F. St. Barbe*—Miss Wilson, M. P. Susman, R. Hayes, P. W. Hoare, F. C. Fisher, A. L. Petty, E. A. Lingard, Mrs. Cook, L. Rowson. *Soloists.*—N. Jones, W. Hay, J. H. Saffery, E. E. Stammers, D. P. H. Esler, B. B. Tucker, R. Sanders Clark, Sq. Ldr. Wright, G. C. Bonner, L. C. Davey, A. R. Ogston, K. V. Wright, H. B. Michelmore, I. C. Horton, H. Solomon, L. J. C. Mitchell. *Passengers.—With Mr. Ballantyne*—Miss Fowkes. *With Mr. Craig*—A. Fowler. *With Mr. Mitchell.*—R. E. Gifford.

The weather prevented any flying on four days.

The Club has taken over D.H. Moth G-EBNN to replace G-EBKT. This is one of the Club's aircraft allocated for Solo Flying. A further Moth, also for Solo Flying, will be taken over shortly to replace G-EBLI.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Oct. 29.

Flying Time 13 hr. 40 min. *Instruction* 5 hr. 55 min. *Soloists* 5 hr. 25 min. *Passengers* 1 hr. 30 min. *Tests* 50 min. *Instruction.*—With Mr. Brown—Messrs. Agar, Hall, Heath, Davidson, Brooking, Browning, Gort, Allott, Michelson, Cohen. *With Mr. Cantrill*—Messrs. Forshaw, Ruddy and Meads. *Soloists (under instruction).*—Messrs. Rowley, Harber and Meads. *Pilots.*—Messrs. Agar, Nelson, Forshaw, Goodfellow, Twemlow, Costa, Leeming, Lacayo, Gattrell. *Passengers.*—*With Mr. Goodfellow*—Mr. and Mrs. Lightfoot, Miss Parker and Mr. Parker. *With Mr. Scholes*—Mr. Gorton. *With Mr. Cantrill*—Miss Bower. *With Mr. Williams*—Mr. Hartley. *With Mr. Twemlow*—Mr. Allott.

Notes.—The wind has varied from 2 to 92 m.p.h., but unfortunately during the calm periods it has been mostly wet.

Mr. Brown was away over the week-end in connection with his licence and in his absence Mr. Cantrill was in charge. Sunday was distinctly stormy and during the worst periods solo flying was washed out. One enthusiastic but inexperienced soloist protested, to whom says our Mr. Cantrill:—"Righto, hop in and fly the darned kite, while I sit in front." It was observed that the enthusiastic soloist was very subdued after coming down and there were no further grouses (or grice.—Ed.).

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Oct. 29.

Flying Time 10 hr. 10 min *Instruction* 5 hr. 20 min. *Soloists* 3 hr. 50 min. *Passengers* 1 hr. *Instruction.—With Mr. Beck*—Messrs. Weaver, Hepworth, Yeomans, Humphries, Dane, Brown, Clayton, H. Crowther, Miller, Batcock. *With Mr. Stockbridge*—Mr. Ostler. *Solo Instruction.*—Messrs. Lister, Lax. *"A" Pilots.*—Messrs. Thomson, Wilson, Wood. *"B" Pilots.*—Mr. Carter. *Passengers.—With Mr. Beck*—Mr. Ellis. *With Mr. Thomson*—Miss Hadwick, Mr. Claxton.

Owing to gales, fog, wind, and rain, the flying this week has been confined to two days, Sunday and Saturday. These two days our Bluebirds were kept busy until darkness intervened and prevented further aerial activity.

Mr. Atcherley (Flg. Off., R.A.F.) again favoured us with a visit this week-end, but owing to the adverse Air Ministry weather report left quite early on Sunday morning.

Mr. and Mrs. Baxter Ellis called in on their way back from London to Newcastle with LX looking very "posh."

The Yorkshire Aeroplane Club has been awarded the last £200 donation from the Fund of £1,000 given by the Petroleum Distributors' Committee to assist Light Aeroplane Clubs.

Subscriptions.—At the conclusion of the financial year, and only after very serious consideration, the Directors have reluctantly been compelled to revise the Annual Subscription Rates, etc. These will be as follows, and will operate on and from Nov. 1, 1927, except in relation to present members:—

"Flying Members":—Subscription £5 5s. per ann. Entrance Fee £5 5s.

"Associate Members":—Subscription £2 2s. per ann. Entrance Fee £2 2s.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Oct. 23.

Flying Time 26 hr. 10 min. *Instruction* 8 hr. 45 min. *Soloists* 3 hr. *"A" Pilots* 7 hr. 20 min. *Passengers and Tests* 13 hr. 5 min. *Instruction.—With Mr. Parkinson*—Miss Leathart, Miss Rambaut, Messrs. P. L. Lawson, C. T. Elmes, R. J. Dickinson, L. B. Dickinson, Griffiths, Mathews, Dr. Alderson. *Soloists.*—Mrs. Heslop, Miss Leathart, Messrs. Mathews, P. L. Lawson, Wilson, Elmes, Robertson, Shaw, C. Thompson, Turnbull. *Passengers.—With Mr. C. Thompson*—Mrs. Heslop, Mr. Luckman. *With Mr. Parkinson*—Miss Wood, Mr. Murrell (of Aerofilms Ltd., on photographic flight).

Notes.—Mr. P. L. Lawson did his first solo flight on Tuesday very satisfactorily. All the above flying was done on G-EBQV. LX is expected back on service during the coming week.

Some interesting particulars of a scheme which, an entirely unreliable rumour says, is being formulated by Mrs. Heslop and Miss Leathart, have leaked out. The following is an outline of the scheme, no details being available for publication as yet. (This is strange, as one believed that the all-important item in such a stunt was the publicity):—A suitably equipped ship will leave the West Coast of England and when five miles out the intrepid ladies will land on it in a Moth. Five miles from the coastline somewhere on the other side of the Atlantic the ladies will take off and complete their trans-Atlantic flight. The chickens are already being fattened and supplies of lip-stick obtained for use in interviews with the Press during the flights and on landing at the other side.

Mrs. Heslop and Miss Leathart are the Club's first lady Pilots to obtain their "A" Licences. So why should not Newcastle combine the different methods which procure free advertisement for Channel swimmers and Atlantic fliers?

Report for week ending Oct. 30.

Flying Time 22 hr. 15 min. *Instruction* 8 hr. 50 min. *Soloists* 15 min. *"A" Pilots* 12 hr. *Passengers* 50 min. *Tests* 20 min. *Instruction.—With Mr. Parkinson*—Miss Rambaut, Messrs. Alderson, Horn, R. J. Dickinson, Turnbull, Glenny, Griffiths, De Pledge, L. W. Heaton, V. Heaton. *Soloist.*—Mr. C. E. Shaw. *"A" Pilots.*—Miss Leathart, Mrs. Heslop, Messrs. Turnbull, H. Ellis, W. B. Ellis, D. Wilson, R. N. Thompson, C. Thompson, A. Bell. *Passengers.—With Mr. C. Thompson*—Mrs. Heslop, Mr. Luckman. *With Mr. Baxter Ellis*—Mr. Easey, Mrs. Baxter Ellis. *With Mr. A. Bell*—Mr. Fairless, Mr. Murrey. *With Mr. Parkinson*—Mr. Murrell, on photography, 50 min.

Mr. Baxter Ellis, with Mrs. Ellis as passenger, flew LX from Stag Lane to Cramlington on Friday and Saturday, staying on Friday night at Sherburn on account of lateness and bad visibility.

The weather was very bad during the week, but with LX again on service ten hours and three-quarters' flying was put in on Sunday, when the weather slightly improved.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Oct. 30.

Flying Time 4 hr. 30 min. *Soloists.*—Messrs. Moore, Ramsay, Cubitt and Gough. *Passengers.*—Mrs. R. Moore, Mr. A. Arnold.



THE SUFFOLK AEROPLANE CLUB.—Sir Courtenay Warner (Lord Lieutenant of the County) in the middle. The Hon. Lady Bailey, The Lady Leucha Warner, and Mr. Courtney Prentice on his left. Mrs. Courtney Prentice and Mr. Billinton on his right.

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Notes.—No instruction has been possible this week owing to the continuation of Summer weather. We sent along three machines on Sunday to support the Suffolk Club. This by the way was quite a well-attended meeting. One wonders whether the Suffolkers have much North British blood in their veins. For every person who paid for admission, at least ten lined the hedges by the road and had a perfectly good view for nothing.

Flat Turn Tommy.—All and sundry are making inquiries regarding this noble gentleman. He is still with us, but hath lately been styled "Crasher Bill." He made a beautiful 3-point landing (two wing-tips and prop) a few weeks back and since then he has not been seen overmuch at the Club House. One also hears that he has been lately having furniture delivered in a plain van. This probably means that he has taken unto, etc.

The Suffolk Aeroplane Club.

The Club's At Home:—The Suffolk Club's At Home on Sunday, Oct. 30, was a great success. The weather was mild, the wind was low, there were pale patches of sunlight at times, there were twenty aeroplanes (mostly in the air at once), there were about 200 motor-cars, and at a rough guess there were about 3,000 people, of whom about 1,000 were "hedge guests" along the road.

The Hon. Lady Bailey, the President of the Club, as enthusiastic for the Club as she is for her hard-worked Moth, deserves every congratulation on the success of the meeting, as do Mr. Courtney Prentice, the Hon. Secretary, and all the Committee-men (whose names one has not the pleasure of knowing), who worked so hard before and during the event to make it a success.

The whole affair was frightfully jolly, and there was none of the bickering which is inseparable from competitions of any kind. Everybody, private and professional, took up joy-riders at 5s. a head, for the good of the Club. All sorts of people were there, from the Lord Lieutenant of the County, Sir Courtenay Warner (who very sportingly presented the Club with £50, with a promise of another £50 if it managed to wangle a subsidy from the Air Ministry), down to the most local farm labourer, who now turns out on Sunday complete with Oxford trousers, dark coat and a soft hat.

The Suffolk Club's own Blackburn Bluebird (Genet engine), G-EBSZ, carried crowds of passengers piloted by the Club's honorary volunteer instructor, Serjeant Lowdell, R.A.F., who has taken on the job *vice* Flt. Lt. Carnegie, now on his way to the Far East.

The other machines and pilots present were:—PU, the Hon. Lady Bailey's own Moth; SF, Capt. Geoffrey de Havilland's own Moth; TI, Mr. and Mrs. Mill, of New Zealand; UR, Mr. McClure in his own Moth with friend; QX, the Norwich Club's Moth, with Mr. Lines; NO, Mr. Brian Russell; QY, Major Beaumont with Mrs. Woods Humphery as passenger; TH, Mr. David Kittel in his own new Moth, a beautiful job; UF, Mr. and Mrs. Neville Stack in the new Moth bought by A.D.C. Aircraft Ltd. as a Cirrus "service" machine; MU, Mr. R. P. Cooper; QE, Mr. Shaw in the Shell Company's solid gold Moth; and SP, Mr. Worth of Stillsbury in his own Moth; WS, Sq. Ldr. Rea in the Boulton and Paul P.9, also of the Norwich Club; RL, Mr. Louis Paget, the Westland Company's new pilot, in a Widgeon; RO, Mr. Tapp in another Westland Widgeon; TA, a Blue-bird belonging to the Blackburn Company piloted by Mr. Blake, R.A.F. Reserve; two aged Avros, G-EAAL belonging to Mr. Richardson of the London Club and G-EAPJ belonging to the Norwich Club; and finally, but by no means least, Mr. Norman Jones, flying as pluckily and skilfully as ever on his A.N.E.C. with his two-cylinder pot-bottle engine.

One of the most interested of the visitors was Mr. C. E. Tempest, the Mayor of Ipswich, who, at the age of 76, is as keen on forwarding the interests of his County Flying Club as is Mr. Bignold, the Lord Mayor of Norwich, who is about half Mr. Tempest's age.

The guests of the Committee were entertained in a tent to a stand-up lunch which was extremely well done, giving great promise of comforts to come when the Club can afford a club house of its own. At present its only premises consist of one of those glorified dog-kennels which is all that is necessary to house a folded Moth.

The Club not being a licensed club within the meaning of the Act, certain of the hard-worked joy-ride pilots suffered from a craving for the honest beer of Old England, so one of them flew over to a neighbouring aerodrome, loaded the locker of his Moth with the local brew and returned in time to save the lives of many friends. This, one believes, is the first example in real life of the Flying Inn, a title which Mr. Chesterton used some years ago for a book on quite another subject.

The number of joy-riders quite exceeded expectations. Only 200 tickets were printed and as fast as they were used they were resold to new applicants for flights. They were all sold twice over, and people were still waiting for flights when darkness shut down the proceedings. Everybody concerned deserves heartiest congratulations on the success of the Club's first venture.—C. G. G.

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. G. Flemming, Filton Aerodrome, Patchway.]

Report for week ending Oct. 29.

Flying Time 12 hr. *Instruction* 6 hr. 55 min. *Soloists* 2 hr. 25 min. *Passengers* 2 hr. 40 min. *Instruction.—With Mr. E. B. W. Bartlett*—Messrs. D. H. Amory, the Hon. H. C. H. Bathurst, A. E. Arnold, M. L. Alexander, T. H. Clark, A. H. Downes-Shaw, C. H. Brewer, R. A. Hall, S. K. Jopp, J. H. Roberts, A. E. Stephens, C. E. Pitman. *Soloists under Instruction.*—Messrs. the Hon. H. C. H. Bathurst, A. H. Downes-Shaw, R. A. Hall, J. E. Tratman, C. E. Pitman. *Passengers.—With Mr. Bartlett*—Col. Flemming. *With Mr. Hopper*—Mr. Leaver.

Notes.—Mr. Bartlett, accompanied by Col. Flemming, went up to London on Thursday to bring down the Club's second dual instruction machine—another Moth. Owing to bad weather they could not get off on Friday, but arrived on Saturday morning. The necessity for a second machine was clearly demonstrated on Saturday afternoon, both the Moths being in the air continuously from 14.00 hrs. till dark.

A Tees-side Aero Club.

A meeting has been arranged to take place on Nov. 9 at 7.45 p.m. at the Empire Hotel, Middlesbrough, to discuss the formation of a Flying Club for Tees-side. Already something like 50 prospective members have sent in their names, among them 15 or 20 ex-R.A.F. officers.

All interested are invited to attend. The joint organisers are Mr. W. Davison, 7, Westcott Street, Stockton-on-Tees, and Mr. W. J. Moss, 168, Linthorpe Road, Middlesbrough.

A Hull Aero Club.

A proposition is afoot to form a Club at Hull, and one gathers that the Blackburn Co. have very sportingly offered the use of their aerodrome at Brough.

The organisers of the proposed Club are Messrs. Mark Gouden and G. Thompson, 74-76, Anlaby Road, Hull.

The Aero Clubs of Africa.

The affiliation of the Aero Club of Africa has been confirmed by the Royal Aero Club and the application for affiliation from the Aero Club of Kenya has been considered and approved.

THE SUCCESS OF FAILURE.

On Oct. 26 Miss Elder and Mr. Haldeman arrived in Paris from Bayonne, Madrid, Lisbon, Madeira and the cold and wet ocean. They were flown from the French border in a French military aeroplane. Elaborate precautions had been taken in and about Le Bourget in an expectation of a great crowd but very few people save journalists and photographers were present. Nevertheless she threw kisses to them. She was carried in triumph to the reception hall (by the journalists) and she swallowed thirstily a glass of champagne (for the photographers). She was later received by the Allied Club and the *Aero Club de France* and later was banqueted by the *Ligue Internationale des Aviateurs* and Mr. Clifford B. Harmon.

The correspondent of *The Manchester Guardian* reports that several of the Paris newspapers think that too little credit is being given to George Haldeman, a highly experienced aviator, whereas she is an amateur, having had only a few lessons before her departure. None the less credit is given to her for that, but it is a different sort of credit. One hopes that she got all she wanted.

AN AERIAL MUTINY.

It is now disclosed that on the third and last attempt of the Sikorsky amphibian, flown by Mr. Stultz, navigated by Mr. Goldsborough, and featuring Mrs. Grayson, to fly across the Atlantic, blows were narrowly averted when it was discovered that the pilot had used his better judgment and had turned back, after covering 495 miles.

The pilot's reasons for turning back was that one engine was not working properly, the petrol consumption was 25 per cent. higher than was estimated, the machine was about to enter a thick fog and its maximum ceiling was 400 ft., any one of which ought to be sufficient to cause an abandonment of such a ridiculous project.

Mrs. Grayson is now reported to be looking for a new pilot.

AIR WAR IN CHINA.

Air warfare is apparently becoming popular in China. *The Times* of Oct. 27 says:—

It is reported that yesterday morning a Vickers Vimy biplane of the Ankuochun (Northern Armies) raided Taiyuanfu (the Shansi capital), bombed the arsenal and military headquarters and did considerable damage.

From this one judges that our old friend Chang Tso-Lin has possessed himself of the remaining Vickers Vimys (Rolls-Royce engines) which were supplied shortly after the War 1914-18 to the contemporary Government of China with the idea of instituting air lines.

Chang Tso-Lin is evidently exercising a strong hand in Peking and is executing unpleasant people with Communistic tendencies, for *The Times* says:—

Yesterday's executions included two prominent officials of the Peking and Tientsin Labour Federations, a railway worker charged with plotting damage to the Peking Suiyuan Railway, and a girl who was secretary of the Labour Federation and the *fiancée* of one of the officials executed. She made a scene when taken from prison and had to be carried to the execution ground.

There seems to be every excuse for the lady.

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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 15; Tuesday, 13; Wednesday, 11; Thursday, 9; Friday, 19; Saturday, 15; Sunday, 8.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 33, passengers 271, freight 12 tons.

AIR UNION:
Paris—London: Machines 31, passengers 89, freight 13½ tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 12, passengers 50, freight 2½ tons.

SABENA:
Brussels—London: Machines 0, passengers 0.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 11, passengers 15

COMPAGNIE AERIENNE FRANCAISE:
Machines 0, passengers 0.

PRIVATE:
Machines 3, passengers 5.

Total number of trips by British Machines 36, carrying 276 passengers. Foreign Machines 54, carrying 154 passengers.

COMPARATIVE FIGURES.

Week ending Oct. 30:
Machines, 90; Passengers, 430; Crews, 161; Total personnel, 591.
Corresponding week, 1926:
Machines, 68; Passengers 175; Crews, 85; Total personnel 260.
Corresponding week, 1925:
Machines, 83; Passengers, 213; Crews, 95; Total personnel, 308.
Corresponding week, 1924:
Machines, 82; Passengers, 346; Crews, 102; Total personnel, 448.
Corresponding week, 1923:
Machines, 64; Passengers, 142; Crews, 95; Total personnel, 237.
Corresponding week, 1922:
Machines, 52; Passengers, 210; Crews, 78; Total personnel, 288.
Corresponding week, 1921:
Machines, 43; Passengers, 112; Crews, 59; Total personnel, 171.
Corresponding week, 1920:
Machines, 64; Passengers, 128; Crews, 85; Total personnel, 213.

Croydon Notes.

There has been a good deal of fuss in certain organs of the Press lately on the subject of the new "second class" passenger service which Imperial Airways start to operate this week. One paper has even gone so far as to launch a denunciation of the whole affair as an effort at "rate cutting" on the part of Imperial Airways.

This "rate-cutting" theory is supported by the fact that Air Union rates to Paris are 5s. per trip less than Imperial Airways, and that they have followed Imperial Airways lead by themselves instituting a "second class" service.

The actual facts of the case are very simple. Although passenger traffic between London and Paris is suffering the normal Winter slackening and is not sufficient to justify more than a single service each way daily, the goods traffic between the two cities is steadily increasing, and does not suffer to any marked extent from the onset of Winter.

And at the moment the single service each way each day does not suffice to carry both the goods and the passenger traffic that is offered.

Consequently it has been decided to run an extra morning service in both directions, mainly for the purpose of dealing with the goods traffic. At the moment this goods traffic is not enough to provide full loads on the new service.

The offer of specially reduced rates for passengers travelling by what is primarily a freight service is an obvious and sound method of increasing the flow of traffic, and increasing the earned revenue of the service.

The new service will be carried on by W.8bs (Rolls-Royce Eagle engines) and the W.8f, or Hamilton (one Rolls-Royce Eagle and two Siddeley Puma engines). The seating accommodation of these machines has been reduced in order to increase their goods capacity, and it is the intention of Imperial Airways still further to cut down the passenger accommodation as the goods traffic increases until finally these machines become freighters, pure and simple.

When this becomes possible the removal of all seating accommodation, decorations, and other provisions for the comfort of passengers will lead to an appreciable increase in the paying load which can be carried by these machines.

If at the same time the second-class passenger fares attract enough traffic to justify that step, arrangements will be made to deal with that traffic separately, but this state of affairs if it occurs will be a secondary outcome of the development of the freight traffic.

The new service will leave Croydon (outward) and Le Bourget (inward) at 8 a.m., arriving at Le Bourget or Croydon—as the case may be—at 10.50. Passengers (outward) leave Airways House and (inward) the Hotel Edouard VII at 7.15 a.m., arriving at the inverse places at 11.35 a.m. The single fare by this service is £3 15s. (465 francs) and the return £7 10s. (930 francs).

At the same time as this new rate comes into force the rates

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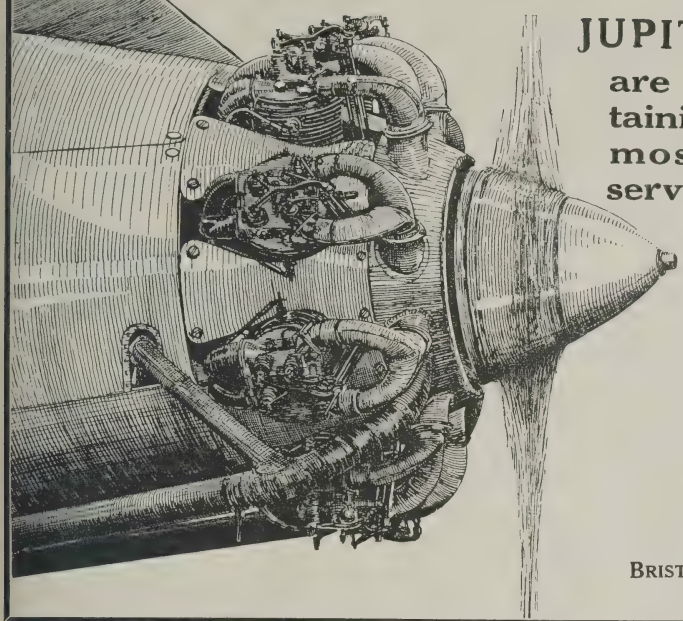
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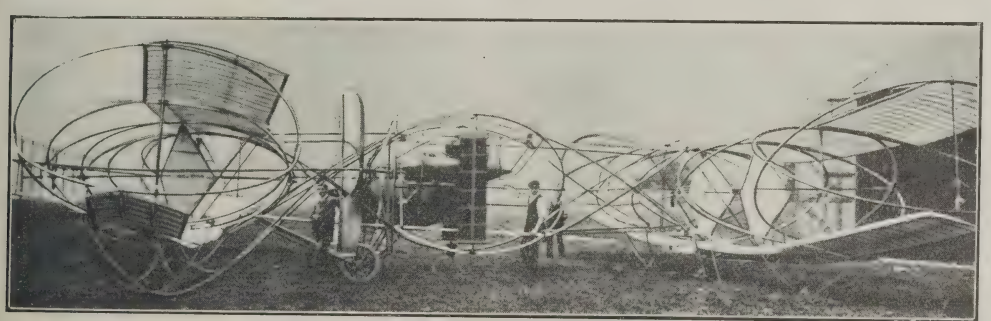
The Middle East Air Route operated by Imperial Airways Ltd., on which Jupiter engines are used exclusively, has operated with 100% efficiency since the inauguration of the service.

K.L.M. Air Lines have fitted Jupiter engines in every one of their machines.

On all the principal French air routes Jupiter engines are in service.

BRISTOL AEROPLANE CO., LTD.,
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FAMOUS AIRCRAFT
USING A AND P COLD DRAWN WELDLESS STEEL TUBES



The above illustration is from "Flight," Sept. 10, 1910, and shows an all-metal aeroplane constructed in England—Lieut. Seddon's tandem biplane. It contained over a mile of "A AND P" Tubes, and the tube construction work was carried out by Accles & Pollock, at Oldbury

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by the midday Silver Wings service will be reduced to £4 15s. single and £9 return instead of the previous Winter rate of £5 5s. single and £10 return.

The fact that Major Brackley, Air Superintendent of Imperial Airways, has during the past week made some test flights at Cricklewood on a machine fitted with the new Handley-Page automatic slot will not surprise those who know Major Brackley. Taken altogether there are very few new or experimental aircraft possessing features which may be of value in Commercial Aviation, on which Major Brackley does not manage to get a trial flight.

The slot control gear in both its earlier and its most recent forms has not escaped the attention of Imperial Airways. It is practically settled that one of their machines is to be fitted with the new control, and that as soon as that machine has proved to be satisfactory in regular service, the whole fleet will be equipped with the new control as soon as possible.

The Air Union is apparently thinking very seriously of replacing the Goliaths mainly used between London and Paris with new, faster, and more luxurious craft. In addition to the Lioré and Olivier "dining car" machines—two of which are now in service, a new Blériot machine has recently been running on a series of service test flights carrying freight.

This new machine is a very clean thick-winged biplane with two Jupiter engines, and, on preliminary trials having been completed it is also, one understands, to be equipped as a "dining car." It is reported that a new Farman of the *Oiseau Bleu* type will shortly be put on this line.

Both the Lioré and Olivier machines and the Blériot have been maintaining an average of about 2¼ hours per flight between London and Paris, something like 15 minutes less than the time taken by British machines, so that Air Union is apparently out to give a faster and even more luxurious service between London and Paris than is offered by Imperial Airways. But the British reputation for construction will still hold its own.

A BLUEBIRD AT CROYDON.

Those who want to see and try a Blackburn Bluebird should communicate with Mr. Charles Blackburn at the Royal Automobile Club, Pall Mall, S.W.1.

Mr. Charles Blackburn is the Commercial Manager of the Blackburn Aeroplane and Motor Co. Ltd., of which his brother Robert was the founder and is the Managing Director. With the firm's pilot, Mr. H. V. Worrall, Mr. Charles Blackburn has been doing a demonstration tour in a Bluebird.

Mr. Worrall, who only recently returned from demonstrating Blackburn torpedo planes in Brazil, has now been called abroad, but Mr. Charles Blackburn and another pilot, who have the machine at Croydon, will be pleased to arrange demonstrations to anybody who may be interested.

CANADIAN AIR MAIL EXPERIMENTS.

On Sept. 16 an HS-2L flying-boat belonging to Canadian Airways Ltd. picked up 500 lbs. of Royal Mail from s.s. *Empress of Australia* at Rimouski, on the St. Lawrence, about 325 miles from Montreal, and flew it to Montreal. The machine left Rimouski at 09.00 hours, and after a stop at Three Rivers for refuelling arrived at Montreal at 16.00 hours.

The saving in time by air over the railway is roughly six hours, although this actual load of mail, having missed the morning train, would not have arrived in Montreal until 10.10 hours the following morning, thus showing an actual saving of over 18 hours.

On Oct. 27 a more extended test was made. A flying-boat took the mail from s.s. *Montroyal* at sunrise on its arrival off Father Point (Rimouski) and flew to Montreal, dropping a bag for Ottawa at Quebec.

Another flying-boat left Quebec at 10.30 hours and arrived at Ottawa at 13.00 hours. This method saves two days in the transmission of the British mail to Ottawa.

AN AIR MAIL SERVICE IN THE DUTCH EAST INDIES.

Early in July the Colonial Section of the Dutch Army Air Service began an experimental air mail service in the East Indies. This service runs once weekly each way on the route Weltevreden—Samarang—Surabaya.

The service connects with incoming and outgoing mail boats of the Stoomvaart-Maatschappij Nederland and the Rotterdam-Lloyd, and enables the public at Samarang and Surabaya to reply to incoming mails by the return trip of the steamer which brought the mails.

The precise position of Weltevreden cannot be discovered on any maps available to The Aeroplane, but it seems fairly certain that it is in the environs of Batavia. There seems no other place where the connection with European mail boats could be made.



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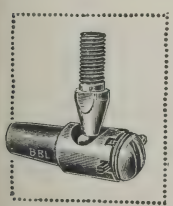
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Aeronautical Research Committee.
Reports and Memoranda No. 1,001, p. 103.

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AERIAL A.B.C. LTD.—Private Co. Registered Oct. 27. Capital, £510 in 300 10 per cent. preference shares of £1 each and 4,000 Ordinary shares of 1s. each. Objects: To adopt an agreement with H. C. Baxter, and to carry on the business of publishers, printers, advertising and publicity agents and distributors, etc. The first directors are: H. C. Baxter, 45, Richmond Road, N.1, journalist; E. A. Falconer, 64, Bath Road, Maidenhead, engineer. Qualification: Five shares.

PERSONAL NOTICES.

DEATH.

BAYLY.—On Oct. 23, at the Watford Peace Memorial Hospital, as the result of a motor accident, Sq. Ldr. Leonard J. St. G. Bayly, aged 42.

MARRIAGES.

BROWNE—WREFORD.—On Oct. 21, at the Cathedral, Hong Kong, James S. Browne, R.A.F., younger son of Mr. and Mrs. James Stark Browne, late of Southview, Caterham Valley, to Alice Margery Wreford, only daughter of Mr. and Mrs. H. F. Wreford, of Southcott, Caterham Valley.

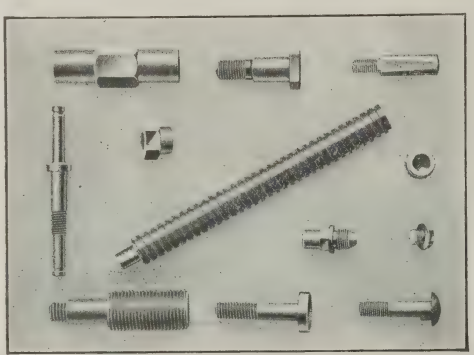
FREEMAN—TREHARNE.—On Oct. 26, at All Saints, Knightsbridge, by the Rev. Canon Deane, B. R. Freeman (Flg. Off., R.A.F.), son of the late Cdr. Freeman, R.N., to Muriel Aileen, younger daughter of the late G. T. and Mrs. Treharne, Acryse Manor, Elham, near Canterbury.

GREGORY—OAKLEY.—On Oct. 27, at St. Peter's, Cranley Gardens, London, by the Rev. R. E. Vernon Hanson, Chaplain-in-Chief, R.A.F., assisted by the Rev. Bertram S. Simpson, Vicar of the parish, Sq. Ldr. Arthur Leslie Gregory, M.B.E., M.C., son of the late Mr. and Mrs. Arthur Gregory, of Staines, to Freda Maud, elder daughter of Mr. and Mrs. F. J. Oakley, of White Lodge, Bullington.

PALMER-JONES—CRABBE.—At St. Matthew's Church, Braid Road, Edinburgh, on Oct. 22, by the Rev. F. H. Martin, B.D., Flt. Lt. Llewelyn C. Palmer-Jones, elder son of Frank and Mrs. Palmer-Jones, Brondeg, Newtown, Mid-Wales, to Florence Margaret, second daughter of the late David Craig Crabbe and Mrs. Crabbe, Edinburgh.

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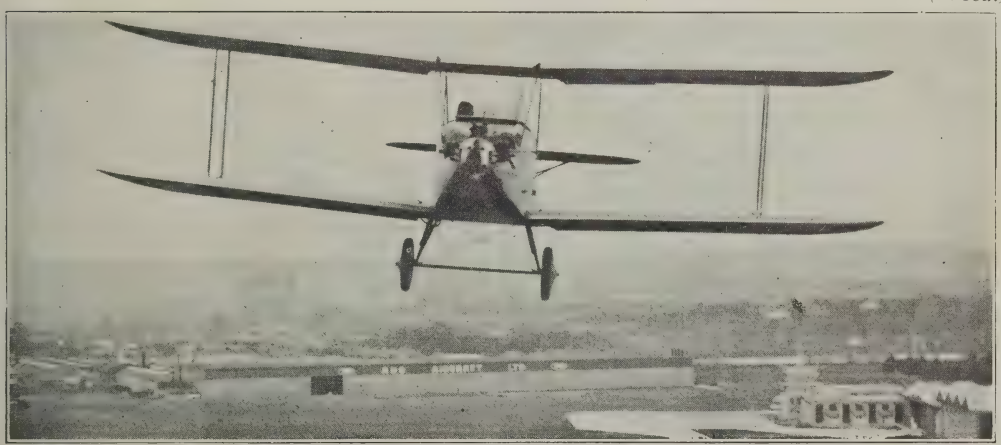
INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Gurney

Vol. XXXIII. No. 19 SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"WE TRAVEL ALONG, SINGING A SONG, SIDE BY SIDE."

(Wood.)



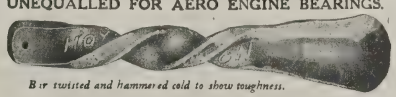
SOCIABILITY:—The latest type Blackburn Bluebird side-by-side two-seater (Armstrong-Siddeley Genet engine) as demonstrated at the Croydon Aerodrome.—The passenger is apparently inside as well as side-by-side.

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THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 19.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 7s. 6d.; 6 months, 15s.; 12 months, 30s.
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ON LETTING THE AIR FORCE DOWN.

Almost every day for the last two or three months the various members of the Staff of this paper, all of whom are in fairly close touch with people in the Aircraft Trade, have been asked by one or another of the designers and draughtsmen in the Aircraft Industry whether they know of any openings for technical men at home or abroad. These questions have come so often that at last one has been forced to believe that there must be something wrong somewhere.

Ambitious young men with brains are naturally always anxious to find better jobs. But, if a trade is in a healthy state, men who are employed by good firms are as a rule content to stick to their work and look for promotion with the growth of the firm which employs them. And so this continual search for employment can only indicate one thing, that is, that the British Aircraft Industry is not able to use the brains that are in it.

The chiefs of the various firms in the British Aircraft Industry are continually scheming to produce better and better aeroplanes for the Royal Air Force. Therefore this inability to keep their design staffs properly employed is clear proof that the firms themselves are short of orders, both for experimental machines and for improvements in the designs of types which are already in production.

One has carefully avoided prying into the private affairs of any individual firm, so even if one wanted to do so one could not say definitely which firms are short of orders and which are not. But from general gossip among people who are closely in touch with the Trade as well as from conversations with a number of the technical people who are looking for jobs, one has got the general impression that the British Aircraft Industry as a whole has not enough orders to keep it strong and healthy.

There have been times when two or three firms which happened to have produced exceptionally good aeroplanes or engines have been working overtime to keep somewhere level with their orders, while other less fortunate or less ably managed firms have had their worshops practically shut down flat except for a little work in the Experimental Department. But this time the indications are that although a few firms are turning out enough machines to keep their shops fairly full of work-people, the shortage of orders is spread fairly evenly all over the Trade, and that there are hardly any orders for progressive experimental types.

The people at the Air Ministry who are responsible for the distribution of orders seem to have done their best for everybody. They have arranged a system of sub-contracting, by which firms whose own designs have not been accepted by the Air Ministry have been persuaded to accept sub-contracts to build machines designed by more fortunate firms. But, whichever way one looks at it, the fact remains that neither the brains nor the hands of the British Aircraft Industry are being employed as much as is necessary to keep the Trade going.

Some firms are wisely spending a goodly portion of their profits on experimental machines, either war types or civil transport types. But the time has not yet come when foreign orders for war machines or home orders for civil machines can keep our factories busy.

The Official Doctrine.

Years ago Mr. Churchill laid down as the basis of Imperial Defence the doctrine that the Royal Air Force must have behind it, as its source of supply, a sound and progressive Aircraft Industry. Successive Air Ministers since then have testified to their faith in that doctrine. Those officers of the Royal Air Force who are directly concerned in such matters of policy, whether Air Staff, Supply, Research, or Equipment, have consistently laid their plans to maintain the Trade in a sound position as the foundation on which the Air Force is based.

Over and above this matter of general policy high authorities on various occasions, even before the War, have laid particular stress on the importance of keeping the best brains in the country busy on turning out new



IN THE FAR EAST.—H.M.S. "Vindictive" off Wei-Hai-Wei. A Fairey III.D (Napier Lion engine) of No. 444 (Fleet Reconnaissance) Flight is being hoisted out. This view is interesting in that it shows a catapult mounted on the forward super-imposed gun structure.

and improved aircraft for our Service aviators. And now we are forcing our best brains to look for work abroad.

In all trades, when bad times happen, or even at certain seasons of the year, workshop hands have to be dismissed or suspended. But design staffs at any rate are kept on permanently. They have been busier at one time of the year than at another. But at any rate they have had regular employment. So, when a trade begins dismissing its design staffs, or even indicating to individuals that in their own interests they had better go and look for jobs somewhere else, things must be in a pretty bad state.

Possible Reasons.

Now there are two ways in which such a state of affairs could happen. The Contracts Department at the Air Ministry might by sheer bungling so hang up new orders either for experimental or production machines that by chance every firm in the Trade would find itself short of orders at the same time.

That, however, is very unlikely. The Contracts Department has had its tail pretty badly twisted at intervals for some years past, and, though one has seldom come personally in contact with anybody belonging to that Department, one gathers that on the whole it is pretty well run and wastes far less time, as between the decisions of the High Authorities and the actual placing of the orders, than do some of the little individual water-tight experimental technical departments.

The other possible reason for this present shortage of orders is that the political side of the Air Ministry has weakly given way to the Treasury's demand for economy in support of Mr. Churchill's effort to make his Budget balance.

Mr. Churchill himself would probably be the last person in the World to consent to a cut in the Air Estimates. He is a firm believer in Aviation, and in the necessity for a strong Royal Air Force as our First Line of Defence. One imagines, therefore, that there are other officials, less in the public eye, who must be trying to cut down expenditure on the Air Force.

Murder by Economy.

Despite the fact that this country is by birth and breeding the most militant nation in the World, it also suffers from a non-Conformist conscience which tries to hammer it and all other nations into the belief that we are at heart a nation of Pacifists. Consequently whenever our national expenditure grows too big, instead of cutting down on the Civil Service and a whole lot of other national expenditure which could very well be cut, the first thing we do is to go and cut the King's Fighting Services. And when war comes we always pay heavily in blood, and by false economy murder men whose lives might very well be saved by a little more intelligent expenditure of money in time of peace.

The Army has been cut during recent years to a size which would be merely comic if it were not for the fact that the young Army of to-day is composed of exactly the same racial material as was the old Army of 1914.

The great British Public has been humbugged into the belief that mechanical warfare will enable us in the next war to do, with half the money and about a tenth of the number of men, even greater things than the old Army was able to do when war began in 1914. And the Public, happily ignorant of the fact that there is not a tank in the World which could be used after travelling 500 miles under its own power, swallow the political dodgery and let the Army be cut.

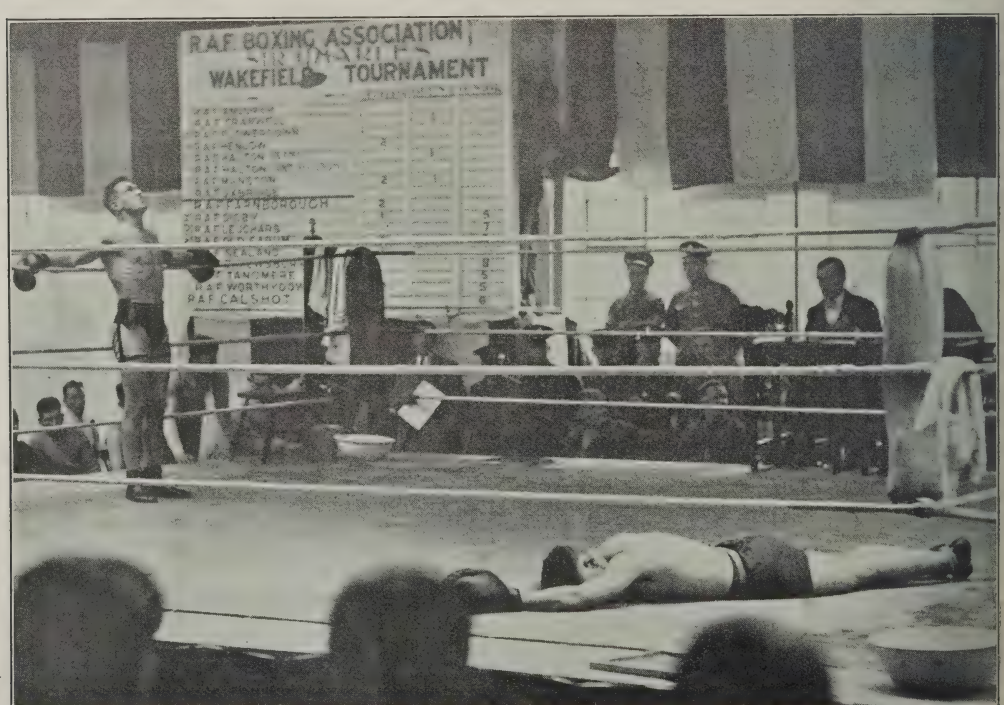
Attempts have been made to cut the Navy. And the Navy has been cut to a size which would have been suicidal in 1914 when the German Fleet was being built in direct competition with the British Navy. Nevertheless we still have to-day a Navy which is not only the biggest and strongest in the World but is quite capable of tackling any other two navies which might conceivably be brought against it.

But, when attempts are made in the House of Commons to cut the Navy still further, the First Lord of the Admiralty, backed by a mass-formation of Sea Lords and Admirals, who know that they have the British Public behind them, steadfastly and very rightly refuses to allow any further cutting. So the politicians, fearing to lose votes, simply give in and let the Navy have the money it wants.

The Air Force Vote.

And now, a good many people would like to know what has happened about the Air Force Vote. Judging by the state of the Aircraft Trade to-day, it is certain that the money which was voted for new aircraft and engines in the 1927-28 Estimates has not been allocated to orders. And it cannot possibly be spent between now and the end of the present financial year on March 31.

Even if orders are handed out wholesale for new types of machines which show a definite improvement on the types already in use, those machines cannot be built and delivered in time to absorb the money by that date. The



"OUT."—Aircraftman Bradshaw (Tangmere) knocked out by Serjt. Jewiss (Calshot) in the Junior Light Heavy-Weight Class, in the Wakefield Boxing Tournament for R.A.F. Novices at Henlow.—Apart from any personal interest this is a very fine boxing picture, and may be allegorical.

Confidence!

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Flight, 20.10.27
Referring to the R.A.F. Far East cruise with four Supermarine-Napier "Southamptons"

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result must be that sundry perfectly good millions of pounds will be handed back unspent to the Treasury. Mr. Churchill's next Budget will look rather prettier for it. And our First Line of Defence will be very much weaker than it ought to be.

PIOUS PROFESSIONS.

In Sir Samuel Hoare's first administration in 1922 he announced a grandiose scheme for the expansion of the Royal Air Force. When the Labour Government came into power not very long afterwards Lord Thomson, in the face of charges of being a Militarist, bravely confirmed the policy of expansion. When Sir Samuel Hoare came back into power he re-affirmed it.

But year by year since then the rate of expansion has grown slower and slower. First one excuse and then another has been trotted out for not forming as many new squadrons as ought to be formed according to programme in that particular year, and for not re-equipping existing squadrons with new and improved types of aeroplanes and engines.

The much-advertised expansion has grown slower and slower. And all we have to show for this year is one new squadron in process of formation. It may be a fully equipped squadron by the end of the financial year or it may not. But we are still a very long way from having the number of squadrons which we ought to have at this date.

The way the scheme of expansion is working out reminds one of the problem of the jumping frog. The frog is put in the middle of the table and by his first jump he jumps half way to the edge. His next jump covers half the rest of the distance. His next jump covers half the remainder. And so on. The problem is, How long will he take to get to the edge of the table? And the answer is, Never.

We have our beautiful scheme of expansion to so many squadrons. And by simple arithmetic that expansion involves so many new squadrons per year. But every year there is a new excuse for slowing down and decreasing the number of squadrons for that year.

The ultimate result must be that when the next war arrives we shall still not have completed the programme. And then we shall have all over again a rush, as in 1914-15-16 of hustled production of aircraft and engines and equipment and hustled training of pilots and mechanics and staff; with the usual crop of entirely unnecessary deaths caused by inexperience in construction, flying, maintenance and administration.

Also at the present rate of progress all but a very few of the squadrons which then exist will be equipped with machines and engines which will be anything between five and ten years out of date.

QUESTIONS AND THE ANSWER.

Naturally the politicians who are thus economising at the expense of the Royal Air Force will have plausible excuses. Any Pacifist may very well ask the supporters of a big Air Force to state definitely why we need an Air Force at all, except for mere police work in our Colonies and mandated territories?

Obviously we are not going to fight France or Italy or Germany or America. When Russia starts invading Rumania or Poland and advances into Hungary or Czechoslovakia or Germany that is no affair of ours. The Pacifists, when that happens, will start making war-material and will try to make profits out of all the belligerents.

Russia cannot bomb us, they will say, and we cannot bomb Russia. We are not likely to fight America. And recent Atlantic flights have shown that even if we had an air war with America it would be very much like a duel with boxing gloves at 100 yards.

So why have an Air Force at all?

The answer, if one wants to stick to the same low mental level, is another question. Why have a Navy or an Army? But the real answer is,—Because the British Empire's job in the World is to make war so as to maintain as much peace as possible. And to make war properly in these days an Air Force is necessary.

Before air-craft reached the stage of being war-craft the British Navy kept the peace of the seas. And from now on the Royal Air Force has got to keep the peace of the air. So we have got to have the best and biggest Air Force in the World, just as in 1914 we had the best and biggest Navy in the World. And if only in 1914 we had had the biggest Army in the World as well as the best (which we had) the War 1914-18 would have been a very different business.

OUR AIR FORCE.

To-day we have the finest Air Force in the World. Barring perhaps the United States Air Corps, the R.A.F., even with its present equipment, could safely be backed to tackle any other Air Force in the World against odds of two to one in numbers.

No other Air Force has such a high average level of piloting. No other Air Force has such able engineer officers or such skilled and reliable mechanics. No other Air Force has such a highly trained Staff.

The equipment of the R.A.F., though years out of date and inferior in performance to that used by the Air Forces of some other nations, is at any rate very much better built and better maintained than any other. Moreover, there are in British aircraft factories to-day machines of all types necessary for air war which are definitely superior in performance to those of any other nation,—if they were ordered.

Therefore, if the line of supply between actual test-flying by the pilots of the designing firms and the delivery of machines to existing squadrons could be speeded up we could very easily within twelve months have our Air Force so much better equipped than any other in the World that, allowing for the superiority of our personnel, we could take on any enemy at odds of three or four to one.

We have got the finest Air Force and the finest sources of supply in the World. But our Air Force is too small and we are not using our sources of supply as they should be used.

A CHANCE FOR THE POLITICIANS.

If that group of Members of Parliament which used to call itself the Parliamentary Air Committee still exists, or if any individual Members wish to make reputations for themselves as specialists on air affairs, now is their chance.

Parliament reassembles within the next few days. There is time between now and Christmas for any intelligent Member to fire enough questions at the Secretary of State for Air concerning the Air Force to cause quite a considerable stir among those who are responsible for slowing down the expansion of the Air Force and for preventing the adequate equipment of existing squadrons.

Also, if anybody with influence among the owners of the daily newspapers, wants to stir up an agitation here is an equally good chance. But the agitation must be run on proper lines. It must not be used to vent personal animosity against individuals at the Air Ministry. And it must not be wasted in talking nonsense about bombing London out of existence in a day—trying to make our flesh creep like the fat boy in Pickwick.

Any such agitation must appeal to the pride of the British People in having the finest Air Force in the World, and must insist that the Air Force shall not be let down. And the agitators themselves must be careful not to let the Air Force down themselves by telling the Public that it is a miserable, weak, badly trained, badly officered force,—such as some recent ill-informed agitators must have led people to believe.

If the agitators want a slogan, like the Navy's notorious "We want eight and we won't wait," let them adopt the simple phrase,—"We won't let the Government let down the Air Force" or "We won't let the Air Force Down."

They must strengthen the hand of the Air Ministry and not weaken it by ill-judged attacks. Sir Samuel Hoare's possibly enfeebled hands must be upheld, as were those of Moses by Aaron and Hur when he refereed the battle of Rephidim.

Sir Samuel Hoare has done more than any other one individual in this country to make the people airminded. Thanks very largely to his efforts, everybody, young and old, does now take quite an intelligent interest in air affairs. And so, as Air Minister, Sir Samuel may very well find the energy which he has put into his work as the Apostle of Airmindedness coming back on him boomerang fashion. One can only hope that it may not knock him over.—C. G. G.

THE ROYAL AERONAUTICAL SOCIETY (+ &c.)

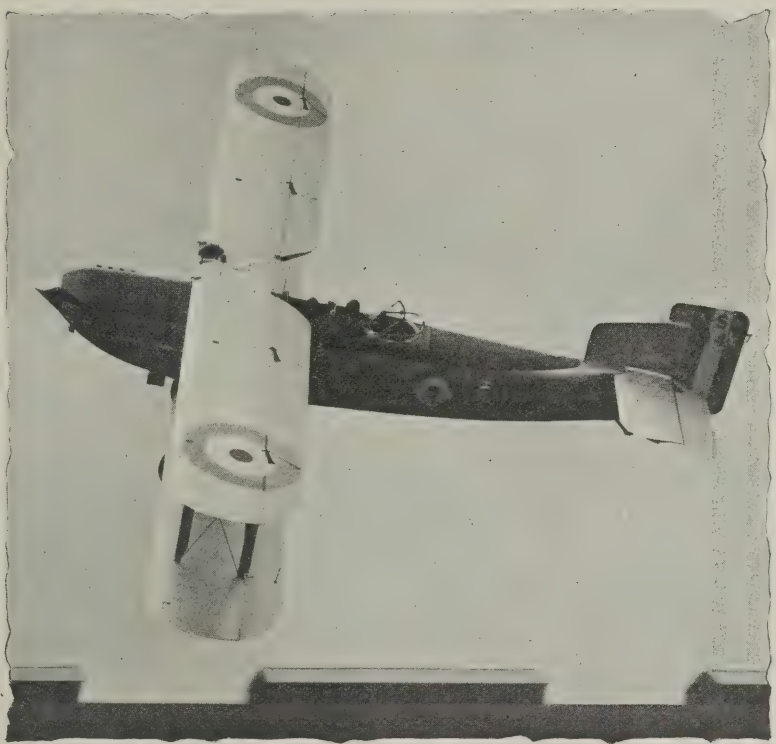
At a meeting of the Royal Aeronautical Society (with which is incorporated the Institution of Aeronautical Engineers) to be held at the rooms of the Royal Society of Arts, 18, John Street, Adelphi, on Thursday, Nov. 17, Mr. R. K. Pierson will read a paper on "The Use of the Wind Tunnel in the Prediction of Aeroplane Performance."

Mr. Pierson as the chief aeroplane designer of Vickers Ltd. regularly employs the firm's private wind tunnel for the purposes of design and the prediction of performance, and is therefore in a position to discuss this particular subject with authority. Directly or indirectly all aeroplane designers use data collected from wind tunnel experiments in the process of design and in the prediction of performance.

There are large divergences of opinion as to the reliability of such data for these purposes, and there is very little room for doubt that the value of performance data deduced from model tests depends firstly on the precautions taken to ensure accuracy in the model tests themselves, and secondly, on the way in which the data so obtained are applied.

Practical experience alone can indicate how the wind tunnel can most advantageously be used for design purposes, and Mr. Pierson's experience on this subject is vast.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

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FAIREY AIRCRAFT

THE WAKEFIELD AFRICAN FLIGHT.

On or about Thursday of next week, Nov. 17, Sir Alan Cobham proposes to leave Rochester on The "Sir Charles Wakefield" Flight of Survey Round Africa. The aircraft on which he is to make this adventurous journey has already been made familiar in several photographs to readers of THE AEROPLANE. It is the same all-metal Short Singapore flying-boat with two Rolls-Royce Condor engines which was used recently on the R.A.F. Service flight round the Baltic States, in which flight it acquitted itself so well that the new civilian crew will have every confidence in it.

The Singapore is the only all-metal flying-boat in this country. And one believes that its spars are the biggest all-metal spars yet flown in a machine of British design.

Sir Alan, with Mr. Lancaster Parker, the test pilot of Short Brothers, flew the boat on Monday last, Nov. 7, at Rochester in quite a thick fog and gave a very good demonstration of its manœuvrability.

The route of the flight is to be through and round Africa right-handed. Starting from Rochester, the machine will be flown across the Channel and over Brittany to Bordeaux; thence across country to Marseilles, and thence by way of Malta to Aboukir. From Egypt it will fly up the Nile to the Great Lakes, thence across to Lake Tanganyika, and from there down the Zambesi to Beira.

After that the chief ports of call will be Durban, Cape Town, Walfis Bay, Lobito Bay, Libreville, Lagos, Freetown, Port Etienne, La Luz (Canary Islands), Mogador, Gibraltar, Barcelona, and so across to Bordeaux and back along the Bay of Biscay.

The pilot who is to accompany Sir Alan is Mr. H. V. Worrall, D.S.C., who has recently been demonstrating Blackburn seaplanes in Brazil. With them will go Messrs. F. Green and C. E. Conway as engineers, and Mr. S. R. Bonnett, of the Gaumont Co., as kinematographer.

While the whole flight is of great interest perhaps one of the most important of its activities is the investigation of the uses of big flying-boats on a Cairo-Cape Town line. The bad luck which has pursued the Khartum-Kenya experiments suggests that big all-metal flying-boats may be more suitable than float seaplanes for African air transport.

As related in THE AEROPLANE some weeks ago, Sir Alan Cobham has been engaged for a considerable time on a scheme for a Cairo-Cape Town air line, which was to work in conjunction with the Khartum-Kenya line, which hitherto has been backed by the North Sea Aerial and General Transport Co. Ltd.

Now a new company has been organised known as Cobham-Blackburn Air Lines Ltd., to amalgamate the interests of Alan Cobham Aviation Ltd. and the North Sea Company in the African venture. The importance to the Empire of such an arterial airway in Africa cannot be overrated.

The assumption is that from the Great Lakes to Cape Town land machines would be used, for no seaplane yet built, or within visible distance of being built, could stand up to a full ocean roll either in the Indian Ocean or the Atlantic. The Singapore's safety in the flight round the coast of Africa must depend on her reaching more or less sheltered water on each stage, and though the average length of each stage is considerably less than 500 miles such stages are quite enough to prove in the long run of nearly 20,000 miles an excellent test of the Rolls-Royce Condors of the IIIa, 700 h.p., type.

One has been given the opportunity of seeing some of the staff work which has been done in preparation for the journey, and one can vouch for the fact that all the plans have been laid with Sir Alan's well-known thoroughness. Shell-Mex Ltd. have assured the supplies of motor spirit, and C. C. Wakefield and Co. Ltd. are doing likewise for oil supplies. Such arrangements will go a long way towards assuring success, and everybody will wish the adventurers a safe return.—C. G. G.

BRITISH COMMERCIAL AIR ROUTES.

A lecture on "Commercial Air Routes" was delivered by Air Vice-Marshal Sir Sefton Brancker, K.C.B., A.F.C., Director of Civil Aviation at the Royal United Service Institution on Nov. 2. Air Vice-Marshal Sir Vyell Vyvyan K.C.B., D.S.O., was in the Chair. Most of the Lecture would not be new to readers of this paper, so only novel matter has been included in the following report.

Defining an Air Route, SIR SEFTON BRANCKER said that an air route was not necessarily the shortest route between two given points. Account had to be taken of prevailing winds and other conditions. He considered that there was far too much talk of safety in connection with commercial air routes and it was possible to devote too much money to ground organisation.

Several people had suggested quite seriously that the Department of Civil Aviation should build three or four floating aerodromes in the Atlantic. The cost of such an enterprise would be prohibitive and it should be remembered that the cost of ground organisation must be borne by the operators of the air routes.

Night flying would be a great factor in the improvement of commercial air routes and he considered that the London—Paris route would be an excellent training ground for night-flying pilots. Additional improvements in the lighting of this route had been made at small cost by unmasking the land side of the sea lighthouses on the Channel coasts.

The Department of Civil Aviation had three plans under contemplation. The first was a through connection by heavier-than-air machines, including seaplanes, from London to Melbourne through India. The second was a branch line by aeroplanes and seaplanes from Cairo to Cape Town. And the third was an airship service, not yet decided upon, but probably from Cardington to Ottawa.

Sir Sefton Brancker went on to describe the various difficulties which had obstructed the programme of operations from London to Karachi and mentioned International complications with the Greeks, the Egyptians and the Persian Government. He carefully avoided any statement of actual facts and spoke somewhat vaguely of the Indian Government having "more or less promised" to take over the Karachi to Calcutta section of the route and said that the Australian Government "might possibly" undertake the responsibility of the section from Singapore to Australia.

He said that the Cairo to Cape Town route had not the same "military value" as the Far East Route but would be of particular interest to travellers and sportsmen. [One is not quite sure whether Sir Sefton Brancker intended to say Military value or commercial value.—C. M. MCA.]

He suggested that seaplanes would probably be substituted for aeroplanes in that part of the route which crossed the chain of great lakes. [He omitted to explain why, if this route is of no particular commercial (?) or military (?) value the taxpayer should provide air transport facilities for big-game hunters. Incidentally he made no mention of the existing Belgian air route from Bomba to Katanga *via* Bandandu and Luebo which was marked on his lantern slide as being in regular operation.—C. M. MCA.] He did however say that the transport of gold by the air route was a very likely proposition owing to the financial value in interest in speeding up gold transport. He thought that a ton of gold per day would probably be sent by the new route. With the existing organisation London to Cape Town could be done in ten days or 108 flying hours. [One wonders why the gold combines have not started an

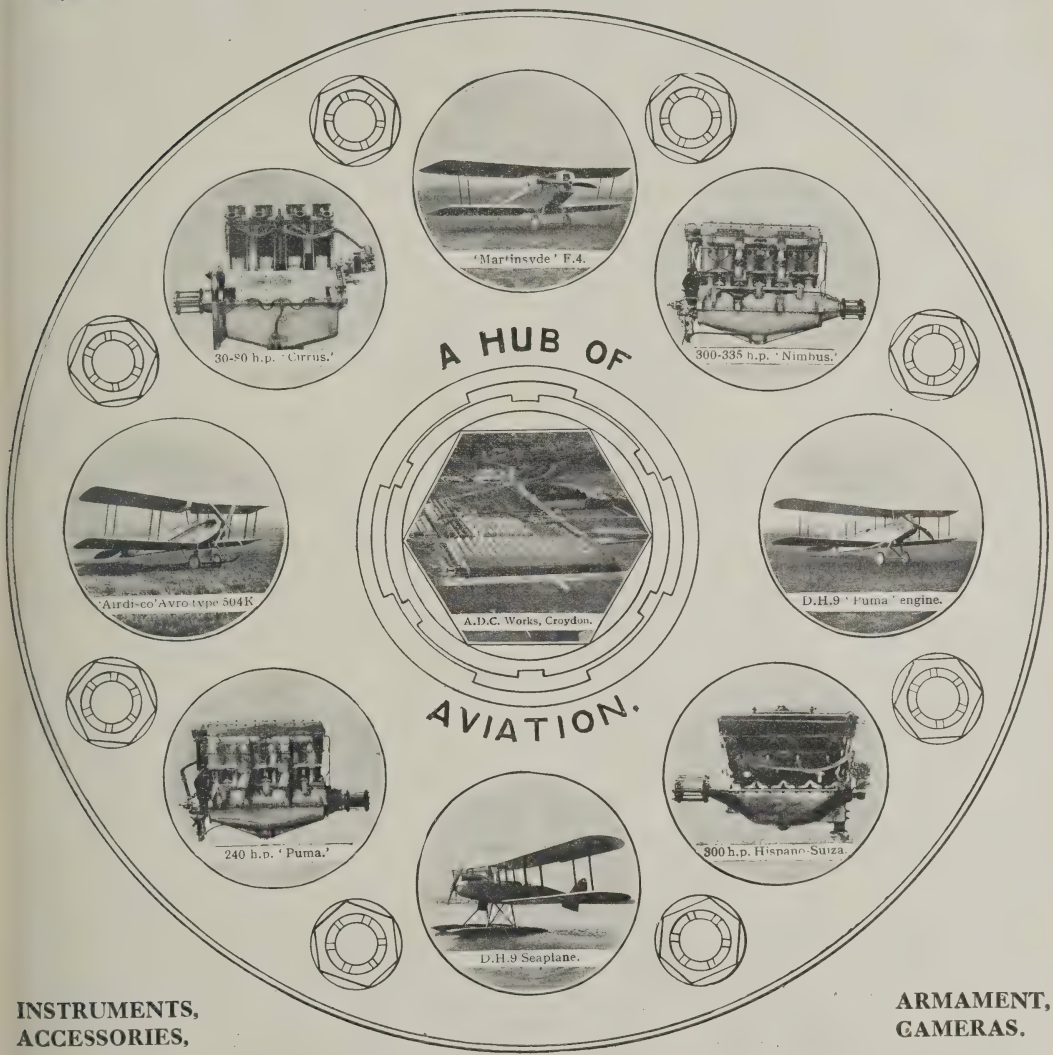


A GREAT ADVENTURE.—Sir Alan Cobham and Mr. Lankester Parker getting off the Short Singapore (Rolls-Royce Condors) on which Sir Alan and Mr. Worrall are to fly round Africa.

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air transport system themselves if it will be such an immense saving in time and consequent interest in the delivery of gold.—C. M. MCA.]

With regard to the airships, Sir Sefton Brancker hoped that both the airships at present under construction would be flying by next Summer. He thought the first service would be to Canada and that the Australian service might be by way of the Cape.

Defending the subsidies he said that they were bad but necessary in order to meet foreign competition. French and German commercial air lines were heavily subsidised and it was satisfactory to note that the British subsidies were more economical than any others, in other words we had more ton mileage for every pound spent than any other country.

The experimental work now in hand for the Department of Civil Aviation included two experimental flying-boats, to carry 18 passengers each and a freight machine specially designed for carrying oil-drilling machinery over desert country.

General Sir George Aston expressed alarm at the serious gaps in the London—Karachi—Australia route and hoped that they might be breached by the use of flying-boats both between France and Egypt and down the Persian Gulf. It was curious that after the enormous publicity given to Sir Samuel Hoare's air trip that the Persians had blocked the Persian section.

Sir Sefton Brancker said that he thought the Persian Government had stopped us flying over their country because they were afraid that they would have to give equal rights to Russia.

Sir Vyell Vyvyan said that he was a Director of Imperial Airways and that the Company had attained safety, reliability, economy and success on the short routes in spite of the heavy subsidies of other countries against them. He thought that they could exist without subsidies over certain routes if they had good mail contracts.

THE WORLD'S SPEED RECORD.

On Nov. 5 Major Mario de Bernardi, flying the Macchi 52 racing monoplane (800 h.p. Fiat AS-3 engine) over a measured 3-km. course at the Lido, Venice, made a new World's Speed record of 477.876 km.p.h. (296.94 m.p.h.). A further attempt was made later in the day to improve on this figure but without any further success.

This figure has been submitted to the F.A.I. for homologation.

It is now announced that he made a previous attempt on Oct. 22 when he reached an average speed of 484.304 km.p.h. (298 m.p.h.), but this was not communicated to the F.A.I. as it was thought that the speed could be exceeded, and it was desired that the foreign Air Attachés should be invited to witness further tests.

The Macchi 52 is now to be modified by having smaller wings and floats fitted and other small details cleaned up for a further attempt to retain the World's Speed Record.

But why has the English press when reporting this compared it with the previous "record" of 452.282 km.p.h. established on Sept. 26 by Flt. Lt. Webster, R.A.F., in the race for the Schneider Trophy? This speed of 452 km.p.h. was put up over a 350-km. course, which involved twenty-one turns, fourteen of which were to all intents and purposes full 180 degree turns, on a machine the engine of which was intended to stay the full course.

Although the winning speed of the 1927 Schneider Trophy race exceeded the World's Speed Record of 448.17 km.p.h. as well as the previous World's seaplane speed record, made by Major de Bernardi at Hampton Roads, Va., last November, of 416.62 km.p.h., it has never been claimed as a speed record.

It is obvious that such a comparison is absurd.

From the way the information concerning these speed attempts have been handled it would appear that Italy has for some weeks been making a very serious attempt to regain some of its lost prestige by being the first country to claim an official speed of over 300 m.p.h. The attempts on Oct. 22 were kept secret, although a speed of 298 m.p.h. was attained. It was then considered advisable to invite all the foreign Air Attachés to witness the further attempts, and it is the irony of Fate that nothing higher than 296 m.p.h. could be reached in spite of some fourteen flights being made over the marked course.

Also there is interest in noting the importance with which Italy regards the World's seaplane speed record.

As a matter of interest the following are the times for six flights over the 3-km. course, the first four of which have been submitted to the F.A.I. for homologation:—First outward flight, 23 2-5 sec.; return, 21 2-5 sec.; second outward, 20 1-5 sec.; return, 21 2-5 sec.; third outward, 24 1-5 sec.; return, 22 sec.

THE FASTEST EVER?

On Nov. 6, at Mitchel Field, Long Island, N.Y., Lieut. Alford J. Williams, U.S.N., on the Kirkham-Packard racing biplane (1,250 h.p. Packard engine) in a test is reported to have done a speed of 322.6 m.p.h. over one way of a 3-kilometre course.

The machine he used was that which had been built at the expense of a group of New York financiers for Lieut. Williams to use in the 1927 Schneider Trophy Contest. A wheel undercarriage had been substituted for the twin floats which had lightened the machine to the extent of 1,600 lbs.

The flight was by nature of a test to discover the machine's possibilities and Lieut. Williams timed himself over the 3-kms. with a stop watch suspended round his neck.

An official attempt on the World's Speed Record will be made at a later date.

Although self-timed "records" cannot possibly be accurate, except by luck, one would be unwise to scoff at this report. On many previous occasions people have been inclined to doubt the speeds claimed for American machines, and very often the speeds, when properly timed, have turned out to be better than those claimed.

A BALLOON-RECORD FATALITY.

On Nov. 4 Capt. Hawthorne C. Gray, U.S. Air Corps, left Scott Field, Belleville, Ill., in an attempt to beat his own balloon altitude record of 8,960 m. (27,605 feet), which he made on March 9, 1927, when he descended by parachute owing to having lost so much gas at high levels.

On the following day he was found dead in the balloon basket at Sparta, Tenn., 310 miles from Scott Field. The last entry in his diary was "40,000 ft. Sand all gone." It is presumed that he had taken out his clasp-knife to cut away further dead-weight, and had accidentally cut his oxygen-breathing tube.

THE PARACHUTE AGAIN.

According to *Reuter*, two pupils of the U.S. Air Corps Primary Flying School, San Antonio, Texas, collided head-on at a height of 2,500 feet, but saved their lives by resorting to their parachutes. The report says:—

They extricated themselves from the wreckage of the falling machines and succeeded in putting on their parachutes and descended safely to the ground.

It sounds easier, if anything, than falling off a log, as in the latter case there is hardly time to put on a parachute before hitting the deck.

A CURTISS WINDMILL?

Reports from New York state that the Curtiss Aeroplane and Motor Company are developing a new type of aircraft which, it is claimed, will have a vertical climb of 1,900 feet per minute.

It has four wings, mounted on vertical shafts about the fuselage, which will be revolved at a rate of from 125-130 r.p.m. by engines of from 25-35 horse-power. There is no engine in the nose, the forward motion being obtained by tipping or "feathering" the wings. Its maximum forward speed is estimated to be about 70 m.p.h.

The machine has been developed by a Mr. Bleeker, a student of the University of Michigan, and after tests in the Curtiss wind-tunnel, the Curtiss company has set aside the sum of $75,000 (£15,000) for the building up of a full-size machine embodying the principles of the model.

So far no confirmation of the report has been received from the Curtiss Co.

Another report says that the Curtiss Co. are developing an 8-cylinder in-line air-cooled engine of approximately 400 h.p. This sounds interesting.

A CHANCE FOR THE BRITISH INDUSTRY.

According to the Danish Press the Danish Royal Naval Air Service have lost five Brandenburg type seaplanes during this year, and will need at least that number of new seaplanes to replace them. The Danish Navy intends to have a newer and more powerful type of craft to replace these machines.

AIR FORESTRY IN AFRICA.

A cutting from a recent issue of *The Johannesburg Star* indicates that the value of the work done by the Aircraft Operating Co. Ltd. in Rhodesia is gradually penetrating the mind of South Africa. True the penetration is being done with the help of Oxford. But everything helps. And South Africa may yet become airminded. *The Johannesburg Star* has for many years done its best to promote Aviation. This latest effort reads thus:—

Capetown, Friday.—Mr. R. Bourne, of the Imperial Forestry Institute, Oxford, who has been touring Northern Rhodesia in order to advise the Government there on its future policy in regard to their forest development, left Capetown in the *Kenilworth Castle* to-day.

In an interview with a representative of *The Star*, Mr. Bourne said he could not say anything as to the nature of the report he would submit to the Government, but he added:—

"I may say that I took the opportunity of verifying the recent developments which have taken place in aerial forest reconnaissance over wide tracts of bush country in these parts, and from what I have seen there seems every possibility that in the near future, given certain conditions, vegetation and soil surveys may be carried out at practically a nominal cost. Hitherto the cost has always been the great obstacle, but now for the first time it is felt that that obstacle can be removed and that these great tracts of territory can be surveyed in a way which should lead to more economical agriculture settlements and the more rapid development of the country's mineral resources."



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THE ROYAL AIR FORCE.

The London Gazette.

Nov. 1.

General Duties Branch.—The following are granted perm. comns. in the ranks stated (Nov. 1):—Flt. Lts.—F. E. Bond, E. S. Moulton-Barrett, F. L. Pearce. Flg. Offs.—C. H. Brill, J. M. Burd, M.C., R. A. A Cole, C. F. H. Grace, J. V. Kelly, F. J. O'Doherty. N. A. Pearce is granted a perm. comn. as Plt. Off. with effect from Sept. 24 and with seniority of Sept. 24, 1926.

The following Plt. Offs. are promoted to the rank of Flg. Off.:—C. D. Graham Welch (July 6); T. B. Byrne (July 12); J. H. Harris, G. H. Shaw, M. A. Smyth, L. R. Stokes, G. A. V. Tyson (Sept. 13).

Flg. Off. R. F. Overbury is transferred to the Reserve, Class A (Nov. 2); Sq. Ldr. A. J. Butler, O.B.E., M.C., A.F.C., is placed on the retired list (Oct. 28); Flt. Lt. J. K. A. Jeakes, D.F.C., is placed on the retired list at his own request (Nov. 2); Plt. Off. P. L. A. Berthon is placed on the retired list on account of ill-health (Nov. 2).

Flg. Off. (Hon. Flt. Lt.) T. K. Burton (Capt., The Cameronians) relinquishes his temp. comn. on return to Army duty (Oct. 23); Flg. Off. F. A. Briggs resigns his S.S. comn. (Oct. 27). The S.S. comns. of the following Plt. Offs. on probation are terminated on cessation of duty:—J. A. Rogers (Oct. 29); A. S. Barry (Nov. 1).

Stores Branch.—The following Plt. Offs. on probation are confirmed in rank and promoted to the rank of Flg. Off. (Oct. 9):—J. E. R. Sowman, O. W. T. Rogers, A. A. Quayle, W. A. D. Collingwood, R. B. Horstmann, R. B. Brown, T. I. Iliff, C. J. Nobbs, H. D. Jackman, E. H. Walker. Plt. Off. on probation C. L. Gilbert is confirmed in rank and promoted to the rank of Flg. Off. with effect from Oct. 16, and with seniority of Oct. 9; Flt. Lt. C. E. Cullen is placed on the retired list (Oct. 30).

Reserve of Air Force Officers.—The following are granted comns. in Class A.A. as Plt. Offs. on probation:—E. M. Badley (Oct. 20); J. I. Muir (Oct. 24). Flg. Off. E. H. Alliott is transferred from Class C to Class A (Oct. 14); Flg. Off. A. R. Latham is transferred from Class A to Class B (Sept. 19). The following Flg. Offs. are transferred from Class A to Class C:—G. Terrell (Oct. 23); G. M. Trundle (Oct. 27). Flg. Off. C. E. Welsh is transferred from Class B to Class C (Sept. 18); Flt. Lt. C. McC. Jones, M.A., is transferred from Class Dii to Class Di (Oct. 20). The notification in the *Gazette*s of Feb. 8 and May 10 concerning Flg. Off. B. A. Davy are cancelled.

Appointments.

Week ending Nov. 7.

General Duties Branch.—Wing Commander A. S. Barratt, C.M.G., M.C., to R.A.F. Depot, Uxbridge, supernumary, pending posting on transfer to Home Estab., 13/9.

Squadron Leaders F. Fowler, D.S.C., A.F.C., to R.A.F. Station, Donibristle, 30/10. J. T. Whittaker, M.C., to No. 28 Sqdn., India, 16/9. C. E. H. James, M.C., to No. 15 Sqdn, Martlesham Heath, 7/11.

Flight Lieutenants A. H. Goldie, to R.A.F. Depot, Uxbridge, 2/11 L. N. Hollinghurst, D.F.C., to No. 26 Sqdn., Catterick, 5/11. H. L. Rough, D.F.C., to No. 1 School of T.T. (Apprentices), Halton, 2/11. W. H. Markham, to No. 39 Sqdn., Spittlegate, 29/10. C. H. Flinn, to No. 4 F.T.S., Egypt, 16/10.

Flying Officers T. Sullivan and G. R. A. Pallin, to R.A.F. Depot, Uxbridge, 15/10. R. C. Wansbrough, to No. 4 Sqdn., Farnborough, 27/10. V. H. Clift, to M.A.E.E., Felixstowe, 12/10. H. Woodin, to Heliopolis Details, Middle East, 13/10. T. H. Finney, to R.A.F. Depot, Uxbridge, 26/10. G. C. A Armstrong, to R.A.F. Training Base, Leuchars, 31/10. E. B. Addison, to School of Photography, Farnborough, 25/10.

Pilot Officer J. E. M. Bainbridge, to E. and W. School, Flowerdown, on appointment to a Perm. Comn., 1/11

Medical Branch.—Squadron Leader A. E. Barr-Sim, M.B., to R.A.F. Depot, Uxbridge, 24/10.

Flight Lieutenant J. D. Leahy, M.C., M.B., B.A., to H.Q., Air Defence of Great Britain, Uxbridge, 28/10.

Flying Officers R. G. Freeman, to R.A.F. Depot, Uxbridge, instead of to No. 26 Sqdn. as previously notified, 17/10. J. M. Ritchie, M.B., to No. 2 F.T.S., Digby, 28/10.

Stores Branch.—Flying Officers F. W. Taylor, to R.A.F. Station, Worthy Down, 7/11. W. H. Bowden, to R.A.F. Station, Tangmere, 24/10. G. J. Maygothling, to R.A.F. Depot, Egypt, 16/10.

Pilot Officers C. I. Fry, to No. 12 Sqdn., Andover, 27/10. H. D. Jackman, to No. 13 Sqdn., Andover, 1/11.

Accountant Branch.—Flight Lieutenant J. M. Adams, to H.Q., Middle East, 17/10.

Chaplains Branch.—The Rev. J. G. Stephens, B.A., to H.Q., Transjordan and Palestine, 16/10. The Rev. G. L. Robinson, D.S.O., to No. 45 Sqdn., Egypt, 21/10.

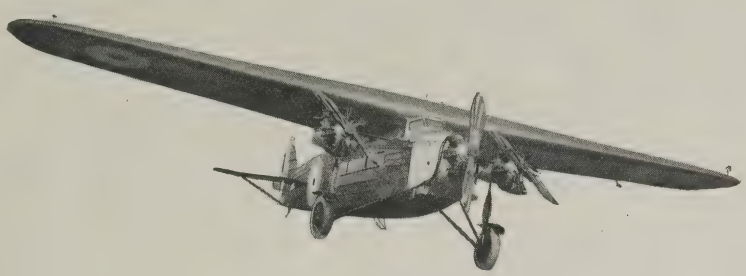
Short-Service Commissions.

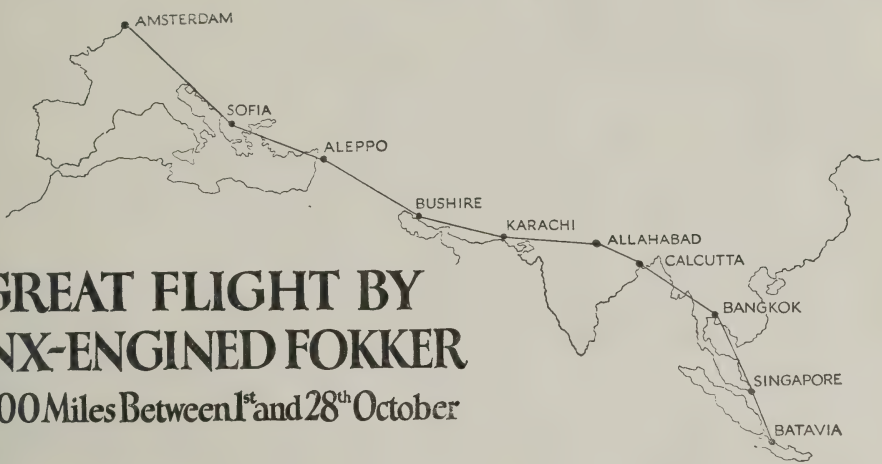
The Air Ministry announces that a considerable number of short-service commissions (for five years on the active list and four in the reserve) will be granted in December, and the Ministry is prepared to consider applications now from candidates between 18 and 25 who wish to fly, are well educated, and of good eyesight and physique. Those accepted after interview at the Air Ministry by a selection committee and a medical board, enter as pilot officers on probation, and, after training in this country or in Egypt, are employed at home or in the Middle East, India, or other oversea commands of the Royal Air Force.

Pay on entry amounts to about £273 a year, and officers receive free quarters, fuel, light, rations, and part use of servant, or, where these are not available, cash allowances in lieu amounting at present rates to about £141 a year. After 18 months qualified officers are promoted to flying



THE CHAMPION NOVICE TEAM.—The Henlow Team, winners of the Open Boxing Championship for the Wakefield Trophy for Novices in the R.A.F. Henlow has won the Wakefield Championship for the third year in succession. In the centre of the group is Sq. Ldr. A. E. Pettingell, Hon. Sec. of the R.A.F. Boxing Association.





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officers, and their pay is increased to about £343 a year. On transfer to the reserve, when the five years' service has been completed, officers receive a gratuity of £375.

A strictly limited number of short-service officers are retained in the service, a competitive examination being held annually, open to officers who are recommended and satisfy certain conditions as to age and service. Those successful at this examination are trained in aeronautical engineering or other specialist subject with a view to being granted permanent commissions. Applications for forms and regulations should be made to the Secretary, Air Ministry, Kingsway, London, W.C.2.

Telegraphist Air Gunners.

A class of Naval ratings selected to undergo the course for telegraphist air gunner joined the Signal School, Portsmouth, on Oct. 27, in readiness to proceed to the Armament and Gunnery School, R.A.F., Eastchurch, on Oct. 31.

The course there will last till Dec. 9, and from Dec. 13 to Feb. 10 the candidates will undergo a wireless course at the R.A.F. Base, Gosport. Telegraphist air gunners receive additional pay of 2s. a day after qualification, while actually detailed for the duties, and 1s. a day while under training for each day of ascent

The Far East Cruise.

The Service Flying-Boat cruise to the Far East which left Cattewater on Oct. 17 reached Alexandretta on Nov. 3.

The Flight left Alexandretta on Nov. 5 and arrived at Baghdad on Nov. 6, having stayed the night at Ramadi.

The Flight is equipped with four Supermarine Southampton flying-boats (Napier Lion engines), and is commanded by Group Capt. H. M. Cave-Browne-Cave, D.S.O., D.F.C.

The Cairo—Kano 1927 Flight.

The Service Flight under Wing Cdr. F. W. Stent, M.C., which left Heliopolis, Cairo, on Oct. 27, to fly to Kano and back on Service Exercises, made a forced landing at Ivra, fifty miles from El Fasher, on Oct. 29, owing to lack of fuel. They were re-fuelled with supplies brought by air, and two of them reached Fort Lamy on Nov. 4. There is no information available regarding the third machine.

Two of the machines of the Flight arrived at Kano on Nov. 6.

Wing Cdr. F. W. Stent, M.C., who is in command of the R.A.F. Flight now on its way from Cairo to Kano served with distinction in France and the Middle East during the War 1914-18. He was awarded the Military Cross in recognition of gallantry and devotion to duty in the Field.

The wording of the *Gazette* of June 22, 1918, in which his M.C. appears is as follows :—

He attacked and brought down a hostile two-seater the observer of which was in a position to give the enemy valuable information of our movements. On another occasion he encountered and brought down an enemy two-seater wounding both pilot and observer who were made prisoners. On both occasions he showed great gallantry and ability.

After the Armistice Sq. Ldr. Stent was appointed to command No. 2 Squadron then in Ireland. In 1921-22 he passed a course at the London University in Aeronautical Engineering and was then posted to the M.T. Repair Depot at Harlescott, Shrewsbury. In September, 1923, he was posted to No. 2 F.T.S., Digby. In November, 1924, he was appointed to Headquarters Staff 'Iraq Command, for Technical Staff (Research) Duties and in October, 1926, he was posted to the R.A.F. Depot, Middle East, at Aboukir.

He was promoted to Wing Commander on July 1, 1927. Wing Cdr. Stent is a qualified Engineering Officer.

No. 26 (Army Co-operation) Squadron.

Sq. Ldr. Robert Little Stevenson, M.B.E., whose appointment to command the new No. 26 (Army Co-operation) Squadron, R.A.F., on its formation was dated Oct. 11 served with distinction in the R.F.C. during the War 1914-18 and was awarded the M.B.E. in the New Year's honours in 1919. In 1920 he was posted to the Inland Area Aircraft Depot, Henlow, and in April, 1921, he was appointed to the School of Army Co-operation, Old Sarum.

In November, 1924, he was posted to India and went on the Headquarters Staff of No. 3 (Indian) Wing. In May, 1927, he was posted to No. 22 Group Headquarters, Farnborough.

He was promoted to the rank of Squadron Leader in July, 1927.

What the Airmen Think of It.

The following is an extract from a letter from an aircraftman at Karachi :—

Isn't it good to know that Britain has won the Schneider Trophy? We heard the news on Monday night in the middle of a Band Concert. The troops nearly went mad and it was several minutes before the Band was permitted to inflict its music on us. It was the talk of the Camp for days, even eclipsing the advent of the film featuring Laura La Plante, and that's saying something!

By Error.

Owing to misleading information a lamentable error happened in the description of the photograph showing H.R.H. Princess Mary opening the new Hospital at Halton. The member of the Nursing Service who was accompanying Her Royal Highness at that moment was not Miss Cruickshank, the Matron-in-Chief of Princess Mary's R.A.F. Nursing Service, but Miss Marion Welch, the Matron of Princess Mary's R.A.F. Hospital, Halton. The Editor tenders his apologies to both the ladies concerned.

R.A.F. SPORTS AND PASTIMES.

Rugby Football Fixtures.

The third R.A.F. trial will take place at Cranwell on Nov. 23, when the Trial XV will play the R.A.F. Cadet College. The final trial will be held at Uxbridge on Dec. 19.

The fixture list for the R.A.F. Representative side opens on Jan. 4 when the Team will play Guy's Hospital at Honor Oak Park. On Jan. 18, the XV plays Cambridge University at Cambridge and on Jan. 21 Bristol at Bristol. On Jan. 25 they go to Leicester to play Leicester, making three matches in eight days.

On Feb. 2 they play Coventry at Coventry, on Feb. 11 the Navy at Twickenham and on Feb. 29 Oxford University at Oxford. On Mar. 3 they play Northampton at Northampton, on Mar. 14 the Civil Service at Uxbridge and on Mar. 24 the Army at Twickenham.

The R.A.F. Cup semi-finals will be played on Mar. 10 and the Final at Uxbridge on Mar. 16.

The R.A.F. Cadet College play Sandhurst at Sandhurst on Nov. 12 and Woolwich at Cranwell on Nov. 19.

The Combined Services Rugger Effort.

The Combined Services played the New South Wales team at Twickenham on Nov. 5 and were defeated by two goals and one penalty goal (13 points) to a goal, a penalty goal and a try (11 points). The team was composed of eight Army players, five Navy players and two R.A.F. players, Flg. Offs. G. R. Beamish and R. V. M. Odbert. The Combined Services held their own against a vastly superior pack by virtue of their deadly tackling, some good footwork in the loose by the forwards and some wizardly work by Mr. A. T. Young at scrum-half.

The Wakefield Boxing Championships.

The final bouts in the Wakefield Boxing Championships for Novices in the R.A.F. were fought at Henlow on Nov. 3.

The Team placings were as follows :—*Airmen Open Championships*—Henlow, 30; Manston, 29; Halton (Wing), 27; Halton (Administrative), 22; Cranwell, 20; Uxbridge, 17; Flowerdown, 13; Andover, 12. *Airmen Junior Championships*—Shrewsbury, 33; Leuchars, 30; Old Sarum, 22; Calshot, 22; Worthydown, 21; Tangmere, 15; Digby, 9. *Officers Championships*—Digby, 22; Henlow, 21; Sealand, 13; Farnborough, 12; Worthydown, 7; Old Sarum, 7; Manston, 6.

An Onlooker describes some of the outstanding performances as follows :—

In the Bantams, AC. Johnson appeared in the ring for the first time and he and his opponent put up a bout of clean hitting and clever footwork. Johnson warmed to his work and won easily with his clean straight lefts.

The Welters was a very close bout and many good judges thought that Buchanan had just won, his blows however were not so clean and heavy as Foleys who has the making of an extremely good natural fighter. Buchanan has obviously been schooled by L-AC. Pape, our Champion Welter-weight, who has now unfortunately left the Service. If he can develop a punch there is no reason why he should not become R.A.F. Champion.

Middle-weight.—L-A.A. Clapp fought very well indeed against an older opponent and kept up the form which marked the Halton lads throughout the Competition. He chased his man round the ring in fine style and won well.

Airmen's Light Heavy.—This bout is an example of what any Airman who is keen can do providing he has the right kind of instruction. AC. Higgins has had no previous experience whatever but by hard work in the Gymnasium and the excellent advice of Mike Honeyman he reached his objective. He beat all his opponents fairly easily until he came to Cpl. Jackson, of Halton, in the final. Both men boxed and hit extremely hard, Higgins varied his punches considerably, using mostly straight lefts in the first round and subsequently varying these with rights to the body. Cpl. Jackson took these in a manner which proved his fitness. It was a real good bout and provided a plucky loser.

Airmen's Heavy.—This bout was a really good one between two heavies who moved about like welters. Bingham will one day come very near to a heavy-weight champion if he keeps on with his boxing. He is beautifully built but has not yet the stamina required for a gruelling bout. He very nearly had Twine with a right swing to the jaw in the first round, but Twine shook his head and went in heartily and landed a left and a right in return. Bingham took a lot out of himself by trying heavy right swings which did not reach. Then Twine came along under full steam and landed at will, finishing his man off with a beautiful right to the body. This knockout decided the issue.

The bouts for the Junior Trophy provided boxing of a class equal to the open. Shrewsbury deserve an extra pat on the back over

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their win as they competed short of a fly-weight and then won by three points.

Among the winners in this competition those outstanding were Steel and Simpson, of Shrewsbury, Souden and Morris, of Leuchars. The latter Station have tried hard in previous competitions and are to be congratulated on their effort this year as they are more or less isolated beyond the border.

Officers' Heavy-weight.—Flg. Off. G. R. Beamish, of Farnborough, somewhat resembles our Champion Flg. Off. Chichester in size and method of boxing. There is no doubt that only a very strong man of equal weight could resist his attacks. His opponent in the finals was Flg. Off. Bruce Bennett, of Henlow, who put up an extraordinary plucky fight against a stronger and heavier opponent and with a little more experience will become a very good light heavy-weight, which is actually his class.

Flg. Off. Cohu, Henlow, showed excellent form, his attacks were strong and precise as he put all his opponents out for the count. Being naturally a left-hander he used the left hook to advantage and is easily the best middle-weight the competition has produced.

Flg. Off. Clare, Sealand, has a very fine style and will make excellent progress in Service boxing if he continues to practise. He fought his way to the final in a very decisive style which looks as though he has had experience in Public School Boxing.

Flg. Off. Stevens, Digby, has a very long reach which probably carried him to the finals. He was very nearly beaten in the first series by Flt. Lt. Clogstoun, of Henlow, as there could not have been half a point in the bout

Flt. Off. Hazeldine, Digby, put up an unexpected win in defeating Flg. Off. Jones, of Henlow, who was regarded as a certain winner of his weight. Hazeldine's reach showed to advantage over his shorter opponent and won him the points.

The results were :—

SENIORS.

Fly-weight.—AC. Coleman (Cranwell) beat AC. Palmer (Uxbridge) on points.

Bantam-weight.—AC. Johnson (Henlow) beat AC. Green (Manston) on points.

Feather-weight.—AC. Holloway (Halton Admin.) beat Cpl. Lloyd (Halton Wing) on points.

Light-weight.—AC. Griffin (Manston) beat AC. Cook (Uxbridge) on points.

Welter-weight.—AA. Foley (Halton Wing) beat AC. Buchanan (Manston) on points.

Middle-weight.—LAA. Clapp (Halton Wing) beat AC. Osborne (Cranwell) on points.

Light-Heavy-weight.—AC. Higgins (Henlow) beat Cpl. Jackson (Halton Admin.) on points.

Heavy-weight.—LAC. Twine (Henlow) knocked out AA. Bingham (Halton Wing) in the first round.

OTHER RANKS.—JUNIOR.

Fly-weight.—AC. Hunter (Calshot) beat LAC. Mosely (Tangmere) on points.

Bantam-weight.—AC. Steel (Shrewsbury) beat AC. Trowman (Old Sarum), who damaged his hand in the first round.

Feather-weight.—AC. Older (Shrewsbury) knocked out AC. Chinnery (Tangmere), the latter being allowed to fight again after being defeated by AC. Borlum (Digby) last night, Borlum being disqualified as not being a novice.

Light-Weight.—AC. Simpson (Shrewsbury) beat LAC. Izzard (Old Sarum) on points.

Welter-weight.—AC. Budge (Calshot) beat AC. Wassell (Leuchars) on points.

Middle-weight.—AC. Souden (Leuchars) beat Sjt. Wilkins (Worthydown) on points.

Light-Heavy-weight.—AC. West (Worthydown) beat AC. Porter (Shrewsbury), who retired with a damaged hand.

Heavy-weights.—AC. Morris (Leuchars) beat AC. Cahalane (Shrewsbury) on points.

OFFICERS' EVENTS.

Feather-weight.—Plt. Off. A. T. Hazeldine (Digby) beat Flg. Off. R. O. Jones (Henlow) on points.

Light-weight.—Plt. Off. M. H. Clare (Sealand) beat Plt. Off. W. T. Rogers (Henlow) in the second round

Welter-weight.—Plt. Off. A. M. Stevens (Digby) beat Flt. Lt. F. T. Eades (Worthydown) on points.

Middle-weights.—Flg. Off. J. M. Cohu (Henlow) knocked out Plt. Off. A. D. Jones (Digby).

Heavy-weight.—Flg. Off. G. R. Beamish (Farnborough) knocked out Flg. Off. Bruce-Bennett (Henlow).

ÆSCULAPIUS AND MARS.

[" Reminiscences of a Naval Surgeon." By Surgeon Rear-Admiral T. T. Jeans, C.M.G. Sampson Low, Marston and Co. Ltd. 304 pages. 26 illustrations and index. 18s. net. Supplied by THE AEROPLANE Book Dept., 14, Bream's Bldgs., E.C.4.]

Rear-Admiral Jeans' book of reminiscences begins when he entered the Royal Naval Hospital at Haslar in 1894 and ends with his retirement in 1926. He served in the China Station during the Russo-Japanese War and at Manila during the Spanish-American War. In 1899 he went out to South Africa with the Naval reinforcements and saw service with the Naval Brigade throughout the campaign. During the War 1914-18 he had experience of convoy work, the Dardanelles campaign and a variety of Fleet activities.

Surgeon Rear-Admiral Jeans does not restrict his reminiscences to experiences in his own particular branch of the Service. His varied experiences have given him a broad outlook towards Service affairs in general. His adventures are described in vivid style and are merged in a general review of the military history of his times. There is not a dull page in the whole yarn.—C. M. MCA.

AN ADMIRAL'S LOG.

[" Land, Sea and Air." Reminiscences of Mark Kerr, Admiral, R.N., Maj.-Gen., R.A.F. (Retired). Longmans, Green and Co. Ltd., 39, Paternoster Row, E.C.4. 406 pages. 20 illustrations and maps, index. 21s. net.]

Admiral Mark Kerr, in this delightful book of reminiscences, gives a very vivid impression of his own life and time. Unlike so many sailors whose lives have been described as similar to that of a sardine in its tin the Author has led a varied and interesting life. The book starts when, at the age of 12, he joined the old three-decker training-ship *Britannia*, and ends at the Armistice, having covered 41 years of eventful life.

After 26 years of purely Naval experiences, which are described in the first five chapters of the book and entwined with countless anecdotes, the Author became Naval Attaché to Italy, Austria, Turkey and Greece, with headquarters in Rome. He took a profound interest in Italian history and art, and started polo among the diplomats and Italians in Rome.

In 1904 he visited Constantinople and made a report on the Turkish Fleet and Dockyards. Some extracts from this report are quoted in the book and they are as amusing as they are informative, although the Author may have altered some of his opinions in the light of later happenings, but some were strongly confirmed. For example, referring to the *personnel*, he said, " The Turk is not a sailor by instinct, neither has he any belief in Heaven's first law—order, and consequently never can become the combination of a seaman and a mechanic that goes to make the modern man-of-war's man."

Throughout his career Admiral Kerr showed himself a great sportsman. He never missed an opportunity to shoot, hunt or play polo. He also encouraged games and sports among the men under his command. Describing H.M.S. *Drake*, whose Flag Captain he was in 1905, he says :—" She was top of the Navy in battle practice and in Gunlayer's Test and also made the best record for battle-firing that has ever been done in the Navy. In steaming she made the record passage for men-of-war across the Atlantic, though the *Berwick* was only half a mile behind, and had a wonderful record for games and sports. These things usually go together."

A chapter of the book is devoted to H.S.H. Prince Louis of Battenberg, whom he describes as a born leader and one in whom meanness was unknown. The Author also gives his personal impressions of the ex-Emperor William II of Germany, with whom he came a good deal in contact from 1905

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In his book of Reminiscences, **Land, Sea and Air,** Admiral Mark Kerr wrote " The EMDEN did us more harm than any submarine could have done in her position." **21s. net.**

Another book about the Navy is **Navies and Nations,** a Review of Naval Developments since the Great War, by Hector C. Bywater. **12s. net.**

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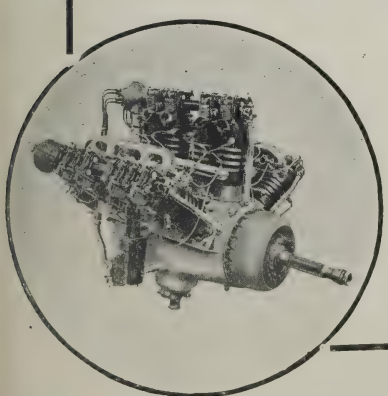
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to 1908. Some of his tales give one the impression that the ex-Emperor may have been enjoying the guilelessness of a simple-minded sailor.

The Naval historian will, no doubt, derive considerable interest from the plan of the organisation of the German Fleet drawn by the German Emperor and given by him to Capt. Mark Kerr, R.N., in April, 1908, at Corfu.

Admiral Mark Kerr first took an active interest in aviation in 1913, when he was appointed Commander-in-Chief of the Hellenic Navy and Naval adviser to King Constantine. An air establishment was part of the programme he drew up for the maritime policy of Greece. In spite of political opposition, within a year of the arrival of this British mission, the Hellenic Navy was practising, in manœuvres, the hunting of submarines by seaplanes.

Three Sopwith seaplanes were ordered and the pilot's training was done by Collyns Pizey, who was formerly one of the earliest instructors at the Bristol schools. To encourage the Greeks, the Author himself, although 50 years of age, went through a course of instruction and in due course received the R.Ae.C. Certificate No. 842, and the first certificate given in Greece.

During the War 1914-18 Admiral Mark Kerr was appointed to the command of the Adriatic Squadron, and several chapters of the book describe the very little-known work of the Fleet in those waters. During those days he never lost an opportunity of using the limited number of aircraft at his disposal and of flying himself in anything handy that would fly.

A chapter of the book is devoted to the Battle of Jutland, a subject no Naval author is ever able to resist.

In the course of a general review of the personnel and construction of the Navy, the Author says :—"New ideas and new inventions are looked upon with suspicion and with no sign of welcome. This mentality is the direct outcome of the close corporation method of living." Later in the book he says :—"I remember one very gallant Admiral saying that two aeroplanes would suffice for the needs of the Navy in the next war."

In September, 1917, Admiral Mark Kerr was sent by the Admiralty to help form the Royal Air Force. He met with the usual opposition, and claims that the scheme for an Independent Air Force had been definitely dropped when he wrote a strong memorandum to the President of the Air Board. (The memorandum is reproduced in full.) A few days later the Independent Air Force came into being.

The Author tells how, in 1919, he took part in an attempt to fly the Atlantic, with Major Brackley, D.S.O., D.F.C., as the other pilot, and Major Gran in charge of navigation. The machine was, unfortunately, wrecked in Nova Scotia.

The last few chapters of the book are full of stories and anecdotes, of various kinds, some new and some very old, but all well told.

It is not a book to be taken as serious history, but it is certainly a book to enjoy.—C. M. MCA.

THE RICHMOND GEM.

Mr. Charles Levine is way back home and he is now about to go into the aeroplane business. He is setting up a factory at Richmond, Va., and will produce on a large scale the Columbia monoplane, of the type which saved his life at Croydon. And one English newspaper relates that he will produce small light aeroplanes of the "Albut" type, which will sell for $1,500.

One can think of no more suitable name for a machine to be produced by Mr. Levine but unfortunately it is not correct. Mr. Levine has persuaded M. Albert to join him in America and jointly they will produce the "Albert" single-seat monoplane, a machine that has shown considerable promise in France. It is fitted with a 40 h.p. Salmson engine, weighs 562 lbs., and has a maximum speed of about 100 m.p.h.

To round off Mr. Levine's modest plans it is also announced that he is also purchasing 1,200 acres of land at Brooklyn for the erection of a factory in which he proposes to build a seven-engined trans-Atlantic "air-liner," with a wing span of 180 feet.

AIR TRANSPORT IN SWEDEN.

According to the Department of Overseas Trade the firm of A/B Aerotransport has recently submitted to the Swedish Government proposals for an extended scheme of commercial air services during the next financial year, with the hope that the Government may be able to provide for the subsidies necessary for these schemes in the next Budget.

The firm suggest that the Stockholm—Helsingfors line should be operated more nearly throughout the year than is now the case, as the development of this line which will probably eventually form part of a through service to London is of great importance.

They also suggest that the line Malmö—Amsterdam should be extended from Amsterdam to Paris, and that a Swedish service should be operated over the Stockholm—Kalmar—Stettin—Berlin line.

AERIAL SURVEY IN PERU.

On Sept. 16 Mr. C. R. H. Shoobridge was granted a five-year concession for aerial survey work throughout the republic of Peru.

Actual aerial survey work in Peru was inaugurated early in 1927. A Curtiss Oriole equipped with a Vickers Eagle automatic camera has been used, and Mr. Elmer Faucett, of the Faucett Aerial Transport and Photography Services of Bellavista, Lima, acted as pilot with Mr. W. O. Runcie as photographer and Mr. Watkins as chief of the photographic laboratory.

More than a thousand square kilometres of territory in the Chilca and Olmos regions have been surveyed for the Irrigation Commission, surveys of Lima and Callao have been made for the respective municipalities, surveys of Chorillos, Barranco, Miraflores, Magdalena, San Miguel and La Punta for the Empresas Electricas and of the Rimac Valley from Verrugas Bridge to Yanocota for the Peruvian Corporation.

Under the new arrangement both the military and naval air services are exempt from the provisions of the concession.

Mr. Shoobridge will continue to use the Curtiss Oriole for both photography and the transport of passengers, and a further machine will be purchased when the increase of business warrants it.

A PERUVIAN AIR LINE.

The Peruvian Government is inaugurating an air route from Lima on the coast to Iquitos on the Amazon, which when in operation will reduce a ten to sixteen day journey by motor, mule, and river transport, to one of from six to seven hours by air.

The route has been surveyed by Commander H. B. Grow, U.S.N., of the Naval Aviation Mission to Peru, and six Keystone aircraft, two landplanes and four seaplanes, have been purchased.

According to present plans the terminal aerodrome will be situated at San Ramon, on the Eastern slope of the Andes, and it will be connected with Lima by rail and an automobile service.

From San Ramon to Puerto Bermudez land machines will be used, and this stretch of country will be covered in 40 minutes as compared with a seven-day mule-pack ride. At Puerto Bermudez passengers will transfer to a seaplane for the completion of the journey to Iquitos along the river course, this portion of the journey taking from five to six hours.

All the machines have arrived in Peru and have been tested by Commander Grow and it is expected that the service will be in operation by time this information appears in print.

AIR TRANSPORT IN BRITISH GUIANA.

A report from Georgetown states that the British Guiana Air Transport Co. Ltd. has recently been formed at Georgetown for the purpose of developing Air Transport in British Guiana. The company, whose managing director is Capt. G. N. Trace, D.F.C., has a capital of $120,000 (£25,000 approximately), and it has purchased the Fairey III.D seaplane, the hangar and the aeronautical equipment which had previously belonged to the Real Daylight Balata Estates Ltd.

The Government of British Guiana has approved the payment to the new company of an annual subsidy of $15,840 (about £3,250) for three years in return for the use of the firm's aircraft for 160 hours per annum.

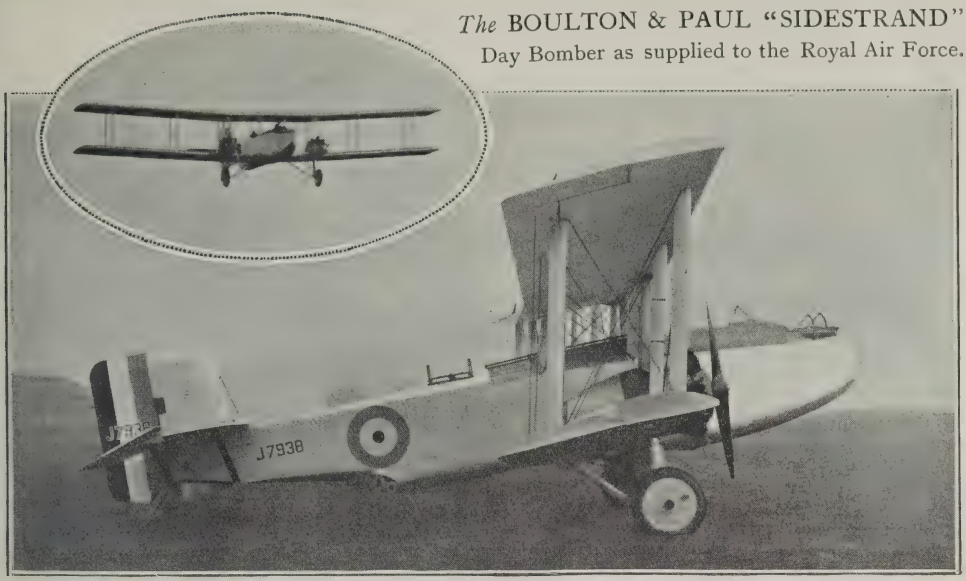
Capt. Trace, the Managing Director of the new company, was formerly pilot to the Real Daylight Balata Estates Ltd., and the other members of the board and the secretary of the new company were all of them concerned with the use of the Fairey III.D under its previous ownership.

This seaplane was bought by the previous owners primarily for ambulance service. Prior to its importation members of the staff of Real Daylight Balata Estates Ltd. working up country, who either as the result of fever or accident required hospital treatment, had to travel down river some two hundred miles or more by canoe. The river has many rapids, and the journey, which took a fortnight or more, was frequently fatal to patients. With the seaplane they could reach Georgetown in a little over two hours.

The machine has been used for many other rapid transport services, and has on one or two occasions been hired by the Government of the Colony to undertake special journeys. The formation of the new company suggests that the importation of this machine has developed a demand for air transport on a much bigger scale than that for which it was originally bought.

The registered offices of the British Guiana Air Transport Co. Ltd. is 19, Water Street, Georgetown, British Guiana.

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Remember that Capt. H. S. Broad and Lady Bailey, who established World's Light Aeroplane Height and Speed Records, also used—

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A PROMISING VARIABLE-PITCH AIRSCREW.

A successful series of tests on a variable-pitch airscrew was made by the Royal Canadian Air Force at Camp Borden during June and July this year. This airscrew was designed by Mr. W. R. Turnbull, F.R.Ae.S., now of Rothesay, New Brunswick, who was for a considerable period during the War 1914-18 on the staff of the aeronautical department of Fred. Sage Ltd., of Peterborough.

He is well known in aeronautical circles as a very sound airscrew designer. And at Peterborough he was already working, with Mr. E. C. Gordon England, on a variable-pitch design.

Mr. Turnbull's first full-size variable-pitch airscrew was shown at the Inventions Exhibition in New York in February, 1923, after it had passed whirling tests at Camp Borden. It was returned to Camp Borden for further tests, but was unfortunately destroyed by a fire in the Autumn of 1923. Such tests as were made were considered so promising that the Dominion Government made a grant for the construction of a second example of the type. This—built by Vickers Ltd., Montreal—is the one which has since been tried out.

The particular airscrew has wooden blades carried in a metal boss. This type of airscrew presents very serious problems of design, owing to the difficulty of making attachments between blade and boss which will stand up to the very heavy centrifugal and bending loads which must be transmitted through the composite structure, but the result of tests indicates that Mr. Turnbull has satisfactorily solved these problems. It is however expected that future airscrews of this type will be made with metal blades.

Variation of the pitch angle in the Turnbull V.P. airscrew is controlled by a small electric motor carried on, and in front of, the airscrew-hub, which rotates the blades through a suitable train of gearing. No details of the gearing itself are available.

The operating gear, it is claimed, works very smoothly, and gives such a rate of change of pitch that the pilot can accurately adjust the blade settings to any required position. An accurate blade-angle indicator is fitted in the pilot's cockpit from which the precise setting of the blades can be ascertained at any moment.

The only aeroplane which could be spared for tests of this airscrew was a very old Avro 504K fitted with a 130 h.p. Clerget engine, and the screw was accordingly designed for this machine, assuming that it would give a top speed of 90 m.p.h. In fact the machine was so old, and the engine was developing so far short of its normal h.p. that this speed was never approached.

As is pointed out in the official report on the tests, "the flying tests of the V.P. airscrew were not primarily to determine how the V.P. airscrew affected the performance of the aircraft. The aerodynamics of variable-pitch airscrews are generally well known, as are also the benefits accruing from their use. . . . . The main objects of the tests were to establish that the apparatus was mechanically sound, that the blade anchorages were amply strong, that the pitch-varying mechanism would stand up to continued use, and that defects in construction and design might be revealed in practice to indicate any necessary modifications to future models."

In all these respects the tests are entirely satisfactory. During the whole of the tests the blades maintained perfect track, and no signs of strain or failure in the anchorages could be found. A small amount of backlash was present in the gear train between the controlling motor and the blades. This was the result of minor inaccuracies in manufacture, but the amount of backlash did not increase and it caused no vibration or blade flutter.

The general results of flying tests are reproduced in the following summary:

SUMMARY OF TESTS—TURNBULL VARIABLE PITCH PROPELLER.

On Avro Training Machine, 130 h.p. Clerget Engine. By Royal Canadian Air Force, Camp Borden, Ont., June 29 to July 9, 1927.

Preliminary whirling tests were carried out, by Flt. Lt. G. E. Wait, June 6-8, with control mechanism locked; in final tests engine reached 1,350 revs., for six minutes, with pitch set at least angle.

Normal maximum, for engine, is 1,250 for five minutes, or 1,200 for continuous running. At a later date, one whirling test was carried to 1,450 r.p.m.—which represents a centrifugal overload of 46½ per cent.

Flying Tests. In all, 32 flights were made between June 29 and July 9, lasting from a few minutes to one hour and 35 minutes at a time, and seven different pilots handled the machine at different times.

Flt. Lt. G. E. Brookes was in charge of the tests, and did all the flying in which accurate testing, for performance, was attempted.

The blade angles, where given, are the angles of the blades at 2/3 radius, i.e., 920 mm., and the extreme range of the blades, at this radius, was 19⅜ degrees, viz., from 13⅛ degs. to 33 degs. The designed normal pitch being 23¼ degs.



The Turnbull Airscrew on an Avro.

One speed test, flying level at 1,000 ft., gave 74.3 m.p.h., with an angle reading of 20.7 degs., and r.p.m. of 1,230. This angle was 2½ degs. below the designed "normal" pitch, for top-speed, but the design had been carried out with top-speed given as 90 m.p.h., and such a speed was quite out of the question for the "F.L." machine, which was an old Avro, about ten years old, with a Clerget engine which was well below its rated power, of 130 h.p. at 1,250 r.p.m. (3rd Flight, June 30, 1927.)

Other speed tests, at different levels, were carried out with a blade angle of 18.8 degs. (11th and 12th Flights), and resulted as follows:—

Alt.	1,000,	True Air Speed	76.3,	Engine revs.	1,275.
,,	3,000,	,,	,,	,,	71.2,	,,	,,	1,250.
,,	5,000,	,,	,,	,,	70.7,	,,	,,	1,200.
,,	10,000,	,,	,,	,,	64.8,	,,	,,	1,175.

One climb test (12th flight) was made to ceiling, with blade angle as above (18.8 degs.), and climb was ended at 10,200 ft., where rate of climb was 100 ft./min. On plotting the results, the estimated actual ceiling was 12,000 ft., and maximum rate of climb, near the ground, was 600 ft./min.

On consumption tests, six flights were made, with blade angles, of 25.3 degs. to 31.7 degs.—results did not vary much, and the best results gave a consumption of about 5 gals. of gasolene per hour, as compared with 9 to 10 gals., with Avro machines, as usually used, at Camp Borden. The true air speed was 51.4 m.p.h., engine revs. 750, at an altitude of 1,200 feet, with blade setting of 29¾ degs., and gas consumption of 5 gals. per hour.

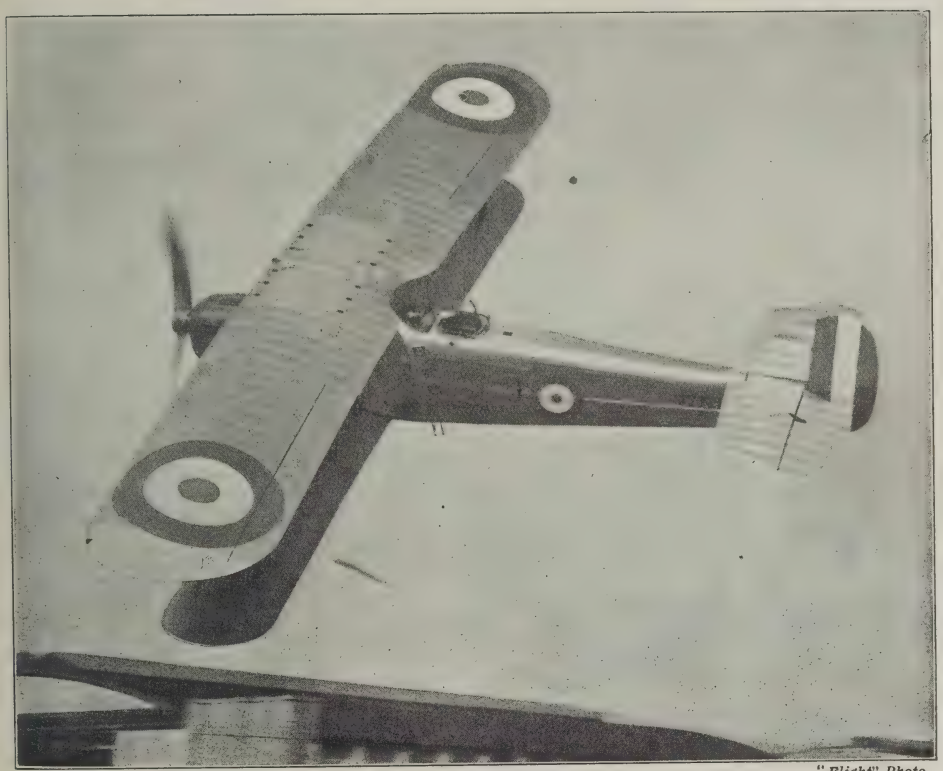
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A firm which is doing a flying job in some rather wild country abroad wants a first-class fitter. The pay is very good, and its payment is assured. The life promises plenty of adventure, and the accepted applicant must be prepared to do anything that occurs in camp life besides ordinary fitters' work.

The type of man wanted is the joy-ride ground engineer who does not mind taking tickets at the gate during the day and pulling the engine to pieces all night, and is not hampered by class prejudice and Trade Union rules, as unfortunately there are no time-clocks in the jungle. Adventurers are invited to communicate with "X" care of THE AEROPLANE.

AIRCRAFT

OF ALL TYPES.



"Flight" Photo.

THE "HORSLEY."

The Hawker Horsley was selected, after exhaustive tests, as the R.A.F. Standard Day Bomber, once again demonstrating the efficiency of Hawker design and construction.

THE H. G.

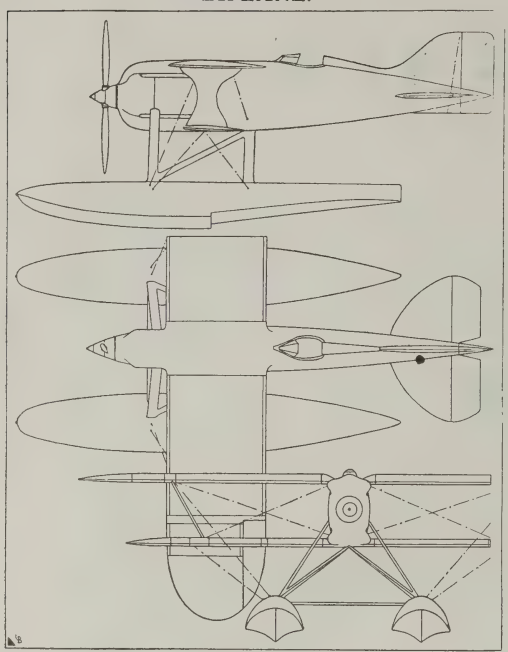
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SBAC

THE SOCIETY OF BRITISH AIRCRAFT CONSTRUCTORS

THE KIRKHAM-PACKARD RACING BIPLANE.



As an entrant but, unfortunately, a non-starter in the 1927 Schneider Trophy Contest, the Kirkham-Packard racing biplane possesses a considerable amount of interest.

It will be remembered that it was designed by Messrs. Booth and Thurston and built by the Kirkham Products Corporation of Long Island, N.Y., at the expense of a group of New York financiers for the use of Lieut. A. L. Williams, U.S.N., a former holder of the World's Speed Record.

In general arrangement it is similar to the well-known Curtiss racers and is a twin-float tractor biplane fitted with a 1,250 h.p. Packard 24-cylinder "X"-type engine.

The fuselage is a monocoque of laminated spruce with the fin built integral with it.

The biplane wings, of unequal span and chord, are of multi-ply-spar construction, covered with two-ply spruce, and are attached to the top and bottom lines of the fuselage and the roots are carefully streamlined into it. The two interplane struts, each in the form of a broad "I" are built up of spruce and duralumin covered with plywood. The wing bracing is of streamline wire and consists of four flying and one landing wires on either side of the fuselage. Two of the flying wires run from the points of attachment of the float struts to the floats to one point on the underside of the bottom plane, with one from the front float attachment and one from the bottom plane rear spar root running to the top fittings of the interplane strut.

The engine-cooling is by means of wing-radiators. The oil radiator is of a type identical with the water radiators and is situated on the bottom port wing.

The radiator system consists of a distributor along the leading edge which is connected to a collector tube along the trailing edge by a series of fore-and-aft "T" section brass tubes, of which a total length of 12,000 feet is used, providing a total area of 690 square feet of water and oil cooling surface.

Ailerons are fitted to all four planes and are operated by torque-tubes and push-and-pull rods. Cables are used for the elevator and rudder controls all of which are situated within the body.

The tail-plane and divided elevators are mounted on the thrust line and the tail-plane is braced above and below on either side by streamline wires.

The twin floats are of the single-step concave Vee-bottom type and are of plywood construction, with duralumin bottoms. They are attached to the fuselage by two sets of "N" struts, the upper ends of the front struts being attached to the engine-bearers half way up the side of the engine-cowling, and the upper ends of the rear struts meeting under the fuselage at a point immediately in rear of the trailing edge of the bottom plane. Between the floats are two spreader-tubes.

Petrol is carried partly in the fuselage between the engine and the pilot's cockpit and partly in the floats.

The Packard engine, as has already been mentioned, is a twenty-four-cylinder unit consisting of two 12-cylinder type V-1500 engines, one upright and one inverted, mounted on a common crankshaft and crankcase. The bore and stroke are 5.375 inches by 5 inches, giving a total cubic displacement of 2,775 inches. At 2,700 r.p.m. the rated output is 1,250 h.p. A Standard Steel adjustable-pitch airscrew is driven direct from the crankshaft.

SPECIFICATION.

Span, top plane 29 ft. 10 ins. (9.09 m.)	Area, fin ..... 8 sq. ft. (.744 sq. m.)
Span, bottom plane 24 ft. 3 ins. (7.39 m.)	Area, rudder ..... 7 sq. ft. (.651 sq. m.)
Length of fuselage 22 ft. 9 ins. (6.93 m.)	Area, tail plane ... 16 sq. ft. (1.488 sq. m.)
Length overall ... 26 ft. 9 ins. (8.14 m.)	Area, elevators ... 10.2 sq. ft. (.948 sq. m.)
Height ..... 10 ft. 9 in. (3.27 m.)	Fuel capacity ..... 60 gallons. (273 litres)
Chord, top plane ...5 ft. 5 ins. (1.64 m.)	Oil capacity ..... 15 gallons. (68.25 litres)
Chord, bottom plane, 3 ft. 8 ins. (1.09 m.)	Water capacity ... 35 gallons. (159.25 litres)
Gap ..... 3 ft. 5½ ins. (1.05 m.)	Weight, empty ..... 4,000 lbs. (1,816 kgs.)
Area, top plane ... 142 sq. ft. (13.206 sq. m.)	Weight, loaded ... 4,600 lbs. (2,086.4 kgs.)
Area, bottom plane 75 sq. ft. (6.975 sq. m.)	Weight, of floats (two) 560 lbs. (254.24 kgs.)
Area, ailerons (four) 16 sq. ft. (1.488 sq. m.)	

CREDIT WHERE DUE.

The following letter has been received from Mr. Hubert Martyn, who is not now connected with the Gloster firm :—

Sir,—With regard to your remarks on page 488 in THE AEROPLANE for the week Oct. 6, 1927, in connection with the credit due for the design of the Gloster IV racing machine entered for the Schneider Trophy contest, I beg to inform you of the following facts.

Owing to my long experience with Gloster racing aircraft, dating from the time one was "split-pin boy" on the good old "Bamel" in 1921, I was selected by Mr. Folland to lay out the principal components of the Gloster IV. This work was done in his private office to ensure non-leakage of information during the early design stage, and was done to the instructions and under the supervision of Mr. Folland and his assistant Mr. Preston.

Any credit attributed to myself must be shared equally with the other members of the drawing and stress offices who spared no efforts in making the Gloster IV the wonderful piece of work she is.

I think it is only fair to all concerned that this should be generally understood and trust that you will give it publicity in the columns of your valuable periodical.

(Signed) HUBERT MARTYN.

Mr. Martyn's chivalrous explanation is published with pleasure. His name was mentioned in connection with the Schneider Trophy machine because there was interest in noting that part of the technical credit for it was due to a member of the Martyn family which founded and built up the great business in Cheltenham of which the Gloster Aircraft Co. Ltd. was originally an offshoot. One has not the pleasure of knowing Mr. Martyn personally. The information about his connection with the design of the Gloster IV came to one purely by chance, and, as one was even ignorant of his existence till then, it struck one as worth recording.—C. G. G.

THE OLD FLYING DAYS.

A reader of THE AEROPLANE wishes to dispose of a complete set of unbound copies of *The Aero* in very good condition. Offers should be addressed to Captain F. H. Rowan, 6, Bentley Grove, Cottingham Road, Hull.

FOR CHRISTMAS PICTURES.

Most people in the R.A.F. know the name of Mr. W. E. Johns as a composer of eye-striking posters and very pleasing small pictures of aircraft. He is also well-known to the general public because of his black-and-white work in *The Illustrated London News*. Several of his smaller pictures have circulated among the R.A.F. in the past as Squadron Christmas Cards, notably a particularly good one of a Fairey IIID. seaplane.

Mr. Johns has now left the Air Force, after some ten years' service, and has established the Aircraft and General Fine Art Company, of Constitutional Buildings, East Grinstead, Sussex, as artists, printing contractors and designers. With him are joined as partners Miss Doris Leigh, who has also had much experience of aircraft, and Mr. J. B. Townend, who has recently been invalided out of the R.A.F., having contracted eye trouble in India.

Readers of THE AEROPLANE who would like accurate, but at the same time artistic, aircraft pictures, either printed as Christmas cards or painted individually as Christmas presents, will do well to get in touch with the Aircraft and General Fine Art Company in good time.


The
WESTLAND WAPITI
After extended competitive trials the Westland Wapiti has been chosen by the Royal Air Force as a General Purpose Aircraft.
Enquiries for all types of Civil and Military Aircraft are solicited.
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THE BLACKBURN BLUEBIRD, MARK II.



THE BLUEBIRD LANDPLANE.—A side view of the Mark II Bluebird (65 h.p. Armstrong-Siddeley Genet engine).

The original Blackburn Bluebird was built in 1924. Fitted with a three-cylinder air-cooled radial engine of 1,100 c.c., it was entered for the Air Ministry Light Aeroplane Competition of that year. This competition was ostensibly for the encouragement of cheap and economical training and touring machines, and the Bluebird was designed less for the purpose of winning the competition than to produce a satisfactory machine of this class.

The Blackburn Aeroplane and Motor Co. Ltd. foresaw that for practical purposes an engine of considerably greater output than was permitted by the rules of the Competition would be required in a machine of this class. And so the original Bluebird was designed to make the installation of such an engine possible.

With relatively few structural alterations the original Bluebird was later fitted with the Armstrong-Siddeley Genet engine of 65 h.p. So fitted the machine proved that in performance and general lay-out it met very satisfactorily the purpose for which it was originally designed, and that it possessed special qualities of its own likely to appeal strongly to both the private owner and the Flying Clubs.

Therefore the Blackburn firm decided some months ago to place this type of machine—modified in detail but in essentials conforming to the original design—on the market. Their decision is justified by the fact that the Bluebird Mk. II is already in regular use as a Club training machine and has given great satisfaction.

The outstanding feature of the Bluebirds, both the original and the present type, is that, unlike all other two-seater light aeroplanes now on the market, it has side-by-side seating for the two occupants. The makers claim that this system has certain very definite advantages. For training purposes, particularly in the early stages, the pupil can see precisely what his instructor does, the instructor can see precisely what his pupil does, and communication between the two is free and unfettered. There is no need to use voice-pipes for communication, and the process of imparting and collecting instruction is thereby greatly simplified.

For pleasure flying, side-by-side seating means that the two occupants of the machine are more in company than in the tandem-seated arrangement.

Aerodynamically and structurally the side-by-side arrangement has its advantages. It permits grouping of all the main loads close to the centre of gravity longitudinally. This reduces the fore-and-aft moments of inertia, a fact which makes for improved stability and control, particularly at low speeds. It reduces to a minimum the difference in trim of the machine caused by the absence or presence of a passenger.

It simplifies very considerably the installation of dual control. And the concentration of load over a short length of the structure makes for economy in structure weight. All direct loads can be transmitted directly to the wings through the centre-section structure, whereas in the tandem



THE BLUEBIRD SEAPLANE.—The Mark II Bluebird fitted with twin metal floats. The quickly attachable handling wheels fitted behind the float-step are noticeable.

TITANINE

THE WORLD'S PREMIER DOPE

The efficiency of "Titanine" is not affected by adverse weather conditions. This is proved by the experience of some of the world's greatest airmen during flights over vast distances when extreme variations of temperature were encountered. Cold, heat and the abnormal humidity of tropical climates have no slackening effect upon the 'planes if these are coated with "Titanine." "Titanine" means uniform Tautness.

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Milan (Italy).

seating arrangement some of these loads have to be transferred through one or more fuselage bays, which have therefore to be stronger than is necessary in a case such as the Bluebird.

To off-set these advantages there is the fact that the cross-section of the body must be greater than is needed for tandem-seating, and the resistance of the body is therefore increased. In actual fact, at the speeds attained by machines of this class, body resistance is a small proportion of the total resistance, and such an increase in body resistance as is required for side-by-side seating will be off-set by a relatively small saving in total weight.

There is room for almost interminable argument as to the relative advantages of tandem and side-by-side seating for machines of this class, but it is not proposed to enter upon them here. Side-by-side seating has the advantages above mentioned, and possibly others, which undoubtedly appeal to many potential purchasers and are sufficient to justify the production of machines having this characteristic.

General Characteristics.

The only noticeable difference in appearance between the original Bluebird and the Mark II is that in the latter the gap between wings has been increased. This gives a rather more convenient entry to the cockpit and improves the view upwards and forwards very considerably.

The machine is a single bay biplane, with a fuselage nearly square in section at the cockpit. The wings have a sweep-back of 5° and a slight stagger, and are arranged to fold to facilitate storage in the minimum space.

The land-undercarriage is of the Vee type, and is rapidly interchangeable with a float undercarriage.

The engine is an Armstrong-Siddeley Genet, five-cylinder air-cooled radial developing 65 h.p.

The tail-unit is of normal design, consisting of a tail plane easily adjustable on the ground, divided elevators and a fixed fin and rudder.

The normal fuel capacity of the Bluebird Mk. II is sufficient for 4 hours' flight at 75 m.p.h., but extra tanks which give double this range can be supplied. The normal load capacity of the machine is 420 lbs., made up of pilot and passenger (360 lbs.) and luggage (60 lbs.).

Constructional Details.

Fuselage.—The body of the Bluebird Mk. II is built in two sections which are easily detachable for repair or replacement. The fore part, extending from engine mounting to behind the cockpit, is of spruce and three-ply girder construction. At the cockpit the side girders are relatively shallow, and are surmounted by a light superstructure which serves as a fairing and into which are built two side-entrance doors admitting to the cockpit.

The rear part of the fuselage is of the usual rectangular box-girder type with four spruce longerons, spruce struts and wire bracing. Duralumin is used for the strut sockets and wiring lugs.

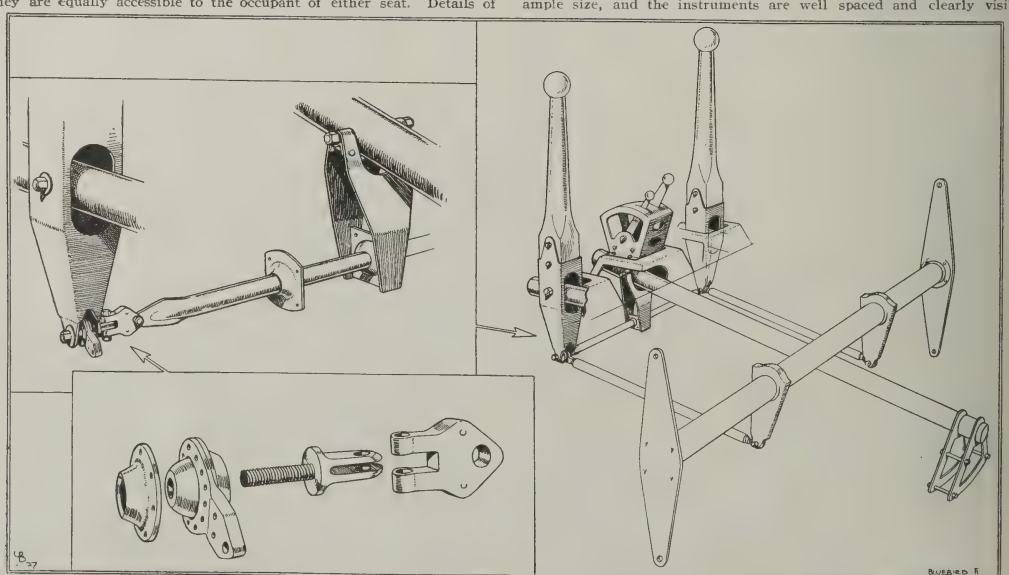
Cockpit.—A single seat, similar to that of a car, right across the body is provided for the crew. This is fitted with pneumatic cushions, which by varying the degree of inflation can be adjusted within limits to suit the height and weight of the crew. The cockpit gives ample leg room and space for the two occupants.

The two control sticks are each of them easily disconnected so that when the machine is not being used for instructional purposes it may be flown from either side at the pilot's discretion. The engine controls are mounted centrally between the control levers so that they are equally accessible to the occupant of either seat. Details of the arrangement of the controls are well shown in a sketch which is reproduced.

All instruments required for normal flying are carried on a dashboard. Owing to the width of the cockpit this dashboard is of ample size, and the instruments are well spaced and clearly visible



IN THE AIR.—The demonstration Bluebird II over the new Civil Aviation buildings at Croydon.



THE BLUEBIRD CONTROLS.—On the right is shown the complete assembly of the hand controls and the two sketches on the left give in more detail the arrangement of the universal ball joints which allow for the fore-and-aft and lateral movements of the control columns.

VICKERS LIMITED

Aviation Department,
Vickers House, Broadway,
LONDON, S.W.1.

AEROPLANES, FLYING BOATS,
AMPHIBIANS AND SEAPLANES
FOR
COMMERCIAL, MILITARY
AND NAVAL USE.



A Squadron of Vickers "Vernon" (Napier Lion Engines) Troop Carrier and Ambulance Aircraft in Iraq, where they are employed by the Royal Air Force in the maintenance of our Imperial Lines of Communication.

R.A.F. Photograph. Crown Copyright Reserved.

from either side. The standard instruments fitted are airspeed indicator, altimeter, cross-level, revolution indicator, oil pressure gauge and oil temperature gauge.

Wings.—The wings, of the section known as No. 64, are built on spruce spars, with spruce girder ribs and spruce drag struts. The internal bracing is of standard swaged rod. The two interplane struts on each side are of spruce and the whole of the external bracing is of streamline wire. Ailerons of very ample area are fitted to both top and bottom wings, and top and bottom ailerons are interconnected by one strut on each side.

The top centre section, which is similar in construction to the main wings, is cut back to the rear spar to give the crew the maximum view upwards. It is supported as to the front spar by a pair of steel struts running forward to just behind the engine mounting, and as to the rear spar by two steel struts on each side. One of these struts runs nearly vertically to just behind the seat, the other is inclined and runs back to the next bay in the fuselage. This arrangement renders unnecessary any wire bracing in the fore-and-aft plane of the centre-section struts, and gives a clear entrance to the cockpit.

Undercarriage.—The land-undercarriage is of the Vee type with a telescope shock-absorber in the front leg of each Vee. Rubber in compression is used in this telescopic leg. The undercarriage has a wide track and is of very sturdy construction

Float System.—A pair of duralumin floats, supported by six struts of steel tube may be substituted for the wheeled undercarriage. The float struts are attached to the same fittings as the wheeled undercarriage and they constitute a rigid framing free from all adjustable bracing wires which requires no rigging or checking for truth.

The floats are of the single step type, and are of such length and proportions as to be stable longitudinally without the use of a tail float.

These floats are anodically treated to resist corrosion, run cleanly on the water, accelerate rapidly and "unstick" very easily.

Tail Unit.—This, as already mentioned, is of normal form, but of generous area. The tail plane is built on steel tube spars, and braced externally by two struts on each side to the bottom of the fuselage. The incidence is adjustable on the ground.

The fin is a cantilever structure carried on a spruce spar which acts as a rudder post and has wooden ribs and a duralumin tube leading edge. The rudder has a steel tube frame and wooden ribs.

Power Plant.—The Genet engine is mounted on a box structure built of duralumin plate which is bolted to the front section of the fuselage by four bolts. A fire-proof bulkhead intervenes between the engine mounting and the interior of the fuselage.

The installation and the cowling are arranged so that easy access is given to all engine accessories. The engine is fitted with an impulse starter and a priming pump which ensure easy starting in the coldest weather.

A starting handle can be provided for the engine when the machine is fitted on floats so that the crew may start up when afloat.

The normal fuel supply is carried in a tank of 19 gallons' capacity fitted behind the dashboard in the cockpit. This tank gives a direct gravity feed to the carburettor through a very short and direct pipe line. An easily visible gauge is fitted to this tank.

A second tank of the same capacity as the normal tank may be fitted below the seat, in which case petrol is pumped to the main tank as necessary.

An oil tank of 5 gallons' capacity (to contain 4 gallons of oil and 1 gallon air space) is fitted just in front of the fireproof bulkhead. The capacity of this tank is sufficient for flights of 8 hours or more.

An exhaust ring for the Genet engine is now being designed, and this will be supplied to all existing and future machines of this type.

Flying Characteristics.—The Bluebird Mk. II is notable for its rapid acceleration and quick take-off, for its light and perfect control, more particularly at low speeds, and for its comfort in the air. Details of performance, both as a land machine and a seaplane, together with dimensions and weights, are given in the appended specification.

SPECIFICATION.

Span	28 ft. 0 in.	
Length (land machine)	26 ft. 7 in.	
Wing area	235 sq. ft.	
	Land machine.	*Seaplane.*
Weight empty	871 lbs.	906 lbs.
Weight loaded	1,475 lbs.	1,505 lbs.
Wing loading	6.1 lbs./sq. ft	6.3 lbs./sq. ft
Power loading	21.3 lbs./h.p.	23.1 lbs./h.p.
Top speed	88 m.p.h.	84 m.p.h.
Cruising speed	75 m.p.h.	70 m.p.h.
Landing speed	35 m.p.h.	38 m.p.h.
Rate of climb at sea level	400 ft./min.	330 ft./min.
Service ceiling	9,000 ft.	7,500 ft.
Range (normal tanks)	300 miles	280 miles

DESCRIBING THE AVIAN.

A. V. Roe and Co. Ltd., of Avro Works, Newton Heath, Manchester, have issued a very neat folder describing the the Avro Avian two-seater light aeroplane. Excellent photographs show the machine flying, and folded (intentionally) on the ground, together with other photographs showing the engine-mounting and other details. The folder gives full particulars of the equipment of the machine and a detailed specification.

There is interest in noting that the price quoted, £730, includes Air Ministry fees for Certificates of Airworthiness and registration, and that no landing fees are charged to Avian owners visiting the Avro aerodromes at Woodford or Hamble, where housing overnight is also provided without cost. Anybody interested can obtain a copy by writing to the Sales Dept. of A. V. Roe and Co. Ltd. at Newton Heath.

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W. 1.]

Report for week ending Nov. 6.

Flying Time 31 hr. 15 min. *Instruction* 12 hr. 25 min. *Soloists* 16 hr. 25 min. *Passengers* 2 hr. 25 min. *Instruction.*—*With Mr. F. G. M. Sparks.*—G. Clemetson, A. Fowler, Capt. Burt, E. R. Andrews, M. P. Susman, J. A. Simson, R. Drysdale-Smith, Rich Hayes, J. Hedinger, J. Bickley, H. B. Michelmore, G. E. Clair, Miss Fletcher. *With Mr. S. L. F. St.-Barbe.*—E. R. Andrews, Rich Hayes, A. J. Richardson, F. C. Elford, E. E. Fresson, R. Sanders-Clark, A. H. Dalton, R. G. Edkins, H. Solomon, L. Rowson, M. P. Susman, Dr. Cook. *Soloists.*—L. C. Davey, L. J. C. Mitchell, R. Sanders-Clark, J. G. Crammond, Capt. Burt. J. J. Hofer, W. Roche-Kelly, E. E. Fresson, O. J. Tapper, B. B. Tucker, E. C. T. Edwards, H. Solomon, P. W. Hoare, A. C. Pearson, N. J. Hulbert, E. E. Stammers, Major Beaumont, H. Petre, H. B. Michelmore, N. Jones, J. H. Saffery, M. P. Susman, I. C. Horton, W. Hay. *Passengers.*—*With Mr. F. G. M. Sparks*—N. F. Shelley, J. Hedinger, Dr. Chaud Nure. *With Mr. S. L. F. St. Barbe*—Mrs. Carberry, A. H Dalton, R. Sanders-Clark. *With Mr. Norman Jones*—J. H. Saffery. *With Mr. I. C. Horton*—H. B. Michelmore. *With Major Beaumont*—R. P. Cooper.

Flying Return for October.—Dual Instruction, 59 hr. Solo, 33 hr. 5 min. Passengers 1 hr. 40 min. Tests, 8 hr. 10 min. Total, 101 hr. 55 min.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Nov. 6.

Flying Time 19 hr. 15 min. *Instruction* 9 hr. 15 min. *Soloists* 15 min. *"A" Pilots* 8 hr. 45 min. *Tests* 1 hr. *Instruction.*—*With Mr. Parkinson*—Miss Rambaut, Messrs. Fairless, Irving, Griffiths, R. J. Dickinson, Alderson, Hayton, V. Heaton, Horn, Glenny. *Soloist.*—Mr. J. E. Glenny. *"A" Pilots.*—Miss Leathart, Mrs. Heslop, Lieut. Hanney, Dr. Dixon, Messrs. D. Wilson, R. N. Thompson. *Passengers.*—*With Dr. Dixon*—Miss Stawart. *With Mr. H. Ellis*—Mr. Baxter Ellis, Mr. N. Easey. *With Mr. Baxter Ellis*—Mr. Bulmer. *With Mr. L. F. Turnbull*—Mr. R. N. Thompson. *With Mr. Heppell*—Mr. Easey *With Mr. C. Thompson*—Mrs. Heslop, Mr. Luckman, Mr. Lawson. *With Mr. A. Bell*—Mr. Oakes, Mr. Wraughton.

Mr. J. E. Glenny did his first solo flight on Sunday in excellent style. The new Moth to be used by the Scottish Flying Club called at Cramlington on Tuesday, en route for Renfrew, piloted by Mr. Reeve, with Mr. J. W. Robertson, of the Scottish Club, as passenger. They left for Renfrew on Wednesday morning.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Nov. 5.

Flying Time 13 hr. 35 min. *Instruction* 6 hr. 30 min. *Soloists* 3 hr. 45 min. *Passengers* 3 hr. 20 min. *Instruction.*—*With Mr. Beck*—Miss Watson, Messrs. Miller, H. Crowther, Evans, Waddington, Clayton, Sobey, Ellison, Ostler, Bell, Brown, M. Lax, Lister, Shires. *Solo Instruction.*—Messrs. Lister, Ellison. *"A" Pilots*—Messrs. Thomson, Brackenbury, Norway, M. Lax. *Passengers.*—*With Mr. Beck*—Mr. Beazer. *With Mr. Thomson*—Mr. Brackenbury. *With Mr. Brackenbury*—Mr. Thomson.

The flying hours this week were cramped by almost incessant rain, which gave way at times to hurricanes and waterspouts. Half the aerodrome is under water, and the other half is mud, with the result that several would-be first-soloists had to postpone getting off. With anything which can be termed "weather" over the week-end, our instructor hopes to launch not less than three pupils, and as the Club has three Bluebirds each pupil can write off a machine.

The Midland Aeroplane Club.

[Sec.: Gilbert Denison, Villa Road, Handsworth, Birmingham.]

Report for week ending Nov. 5.

Flying Time 7 hr. 45 min. *Instruction.*—*With Mr. McDonough*—E. Lane, E. Darlington, H. Lattey, J. Brewin, S. Duckitt, R. Brinton *Soloists.*—E. J. Brighton, R. Bednell, R. Cazalet, R. Brinton.

Notes.—The weather has been so bad that flying has only been possible on three days this week. Our old Veteran, G-EBLW, has gone to De Havillands' for overhaul after doing 546 hours without an accident, during which time eighteen pupils have flown *ab initio* solos on her. This we submit is a record in Flying Training.

The Hampshire Aeroplane Club.

[Sec.: Major R. Ross White, Hamble, Southampton.]

Report for week ending Oct. 30.

Flying Time 8 hr. 35 min. *Instruction* 4 hr. 30 min. *Soloists* 3 hr. 20 min. *Joy-riders* 20 min. *Test Flights* 25 min. *Instruction.*—*With Flt. Lt. Thomson*—Miss Home, Mrs. Ranald, Capt. Molyneux, M.C., Capt. Kirby, M.M., R.N.R., Lieut. Kidston, R.N., Lieut. Richardson, R.N., Lieut. Mandeville, R.N., Lieut.-Cdr. Evans Penman, R.N., Messrs. Baynes, Fawkes, Whittle, Dickson, Courtney. *Soloists.*—Miss Home, Mrs. Ranald, Messrs. Falconar, Fawkes, Stanford, Nicholson, Parker. *Passengers.*—*With Flt. Lt. Thomson*—Mrs. Crook and Mrs Butler.

Weather.—Flying was possible only on Saturday and Sunday owing to gales, hurricanes and rain.

Three members qualified for their Royal Aero Club certificates on these two days. They were Messrs. Falconar, Stanford and Parker.

Report for week ending Nov. 6.

Flying Time 18 hr. 40 min. *Instruction* 10 hr. *Soloists* 8 hr 15 min. *Passengers* 10 min. *Tests* 25 min. *Instruction.*—*With Flt. Lt. Thomson*—Miss Home, Mrs. Andreae, Mrs. Willis, Cdr. Hunt, Lt.-Cdr. Evans-Penman, R.N., Lieut. Kidston, R.N., Lieut. Richardson, R.N., Capt. Kirby, M.M., Flg. Off. Messenger, Lieut. Mandeville, R.N., Messrs. Cripps, Hall, Southcliffe, Puttock, Williamson, Lowe-Wylde, and Nuthall. *Soloists (Licensed).*—Don Juan de la Cierva, Lieut. Oliver, R.N., Flg. Off. Messenger, Flg. Off. Southey, Messrs. Brodie, Wells, Bowen and A. N. Other. *Soloists (Unlicensed).*—Miss Home, Lieut. Graham, R.N., Lieut. Kidston, R.N., Messrs. Cripps, Fawkes, Shepherd, Molony, Parker, Nicholson and Stanford. *Passengers.*—*With Flt. Lt. Thomson*—*Mr. Brown. With K. P. L. Bowen*—Mrs. Waterman. *With A. N. Other*—Miss Gardner.

No flying was possible on two days owing to rain and gales. On Friday, Lieut. Kidston, R.N., made a successful solo after only 5½ hours' instruction.



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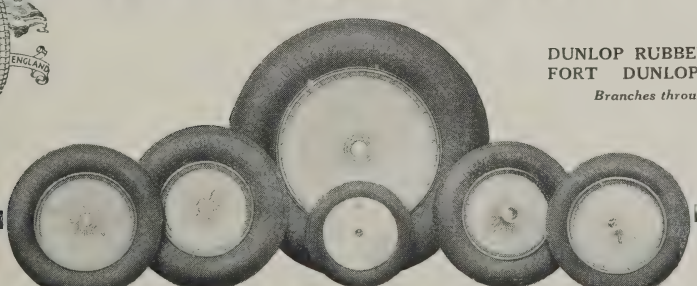
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C.F.H. 811

Mr. McClure flew down from London to this Club on Sunday morning with Mr. Tapper in the passengers' cockpit, and stayed to lunch with us.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Nov. 6.

Flying Time 12 hr. 40 min. *Instruction.—With Mr. Lines*—Messrs. H. Neave, H. Lindley, and C. Bougrat. *Soloists.*—Messrs. W. A. Ramsay, R. F. W. Moore, R. Harmer, W. P. Cubitt, F. Gough, S. I. Noakes. *Passengers.*—Messrs. H. Girling, N. Paul, J. Morse and H. C. Green.

Notes.—For various reasons we seem unable to increase our Flying Time even though we now have two machines. The chief topic of conversation this week has been the Cabaret-cum-Supper-cum-Dance held last Friday night. This was a huge success and was well attended. Capt. Shaw came down in his solid gold Moth; his demonstration with balloons at the show was highly appreciated and he has definitely proved to us that the old adage "That which goes up must come down" is still perfectly correct. Mr. Loader from D.H. also burst in upon us. We all hope to see these two staunch gentlemen again in the not too distant future.

Admitting the above to be a great effort one was very sorry to find that the Social people could not arrange their functions without suspending flying for two days. It rather appears that Mr. Lines is indispensable to such affairs. However, those members who were disappointed re flying are assured that in future flying will not be suspended excepting through unforeseen circumstances.

Answers to Correspondents:—A. B. C.—Yes! The gentleman taking a stroll on the tops of cars was one of our gallant Captains. I. O. U.—See reply to A. B. C. No! He did not look the same man on Saturday. Crasher Bill.—(late Flat Turn Tommy).—So sorry you were on the wrong side of the table. Yes, your neck must feel bad! W. M.—Lines, yes! He was nice. His hair was set to music (in the Avro prop). I. B.—Yes, Capt. Ramsay's stock has advanced tremendously (it usually does in such cases). M.—Yes, the member smoking a pipe was an "*Ab initio*," poor thing.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for 14 days ending Nov. 6.

Flying Time 17 hr. 5 min. *Instruction.—With Mr. Lowdel*—Miss D Creasy, Dr. Sleigh, S. Schofield, R. Brown, H. Billington, N. Creasy, G. Hutley, T. Marriage. *Soloists.*—S. Schofield, N. Creasy, C. N. Prentice. *Passengers.—With Mr. Lowdel*—F. Jolly, S. Hutley. *With Mr. C. N. Prentice*—S. Hutley, Miss Spooner.

Two members have been launched solo this week, Mr. N. Creasy and Mr. S. Schofield. They both put up an excellent show. A number of Pilot and Associate Members have been enrolled this week and our Committee has been compelled to restrict all flying to 15 min. flights.

The Hon. Lady Bailey visited us on Sunday last and lunched at the Aerodrome. We are all delighted with the result of our First Meet and wish to take this opportunity of thanking the numerous private owners and other Clubs for their great help. We are sorry the Hampshire Club were unable to support us; we had hoped they would send a machine and deliver the "Opossum rug."

The Bristol and Wessex Aeroplane Club.

[Sec.: Lt.-Col. G. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Nov. 5.

Flying Time 10 hr. 25 min. *Instruction* 6 hr. 35 min. *Soloists* 3 hr. 50 min. *Instruction.—With Mr. Bartlett*—Messrs. Arnold, Alexander, Moon, Jopp, Tiarls, and T. H. Clark. *Soloists under instruction.*—Messrs. R. A. Hall, Bathurst, Downes-Shaw, Tratman, I. E. Pitman.

Flying was not possible on Friday and Saturday.

The Scottish Flying Club.

On Tuesday, Nov. 2, Mr. R. W. Reeve left Stag Lane Aerodrome for Glasgow on the Moth for the Scottish Flying Club. This is the first machine to be acquired by a flying club north of the Tweed. Mr. Jack Robertson, of *The Glasgow Evening News*, and a member of the Club, travelled as passenger.

The Moth, G-EBUU ("You-You"), is finished in red and gold, the colours of the Scottish Standard. It will be exhibited in the Showrooms of Messrs. Wylie and Lockhead in Glasgow during the Scottish Motor Show and will then be housed at Renfrew Aerodrome, where the Club is to have its Headquarters.

A CLUB HANDBOOK.

The Newcastle-upon-Tyne Aero Club is to be congratulated on having had produced for it quite the best example of Club literature that one has struck. This is a pamphlet for the information of would-be aviators, showing them the advantages of joining the Newcastle Club and telling them all about the Club's history and what they are likely to have to spend on learning to fly as pupils at the Club.

The booklet, which has a foreword by Sir Sefton Brancker, originated in the active brain of Mr. J. D. Parkinson, the Club Instructor, and has been produced by the old-established printing firm of M. D. Dodds, 61-63, Quayside, Newcastle, the Proprietor of which is Mr. Brian M. Dodds, the Treasurer of the Club.

The booklet, which is entitled "Learn to Fly (At Cramlington Aerodrome)," has an aluminium cover with the lettering in red and a silhouette of a Moth on it, and to anyone who is concerned with aviation the colour-scheme at once suggests the modern light aeroplane. Those who are not so well-informed on aviation are bound to be struck by the unusual get-up of the cover, and when once they have got hold of the book they are bound to read it with interest from the foreword right away to the advertisements at the end.

In this connection the producers of the booklet wish to thank publicly the Proprietors of Pratts Spirit, Palmer Tyres, Moth aeroplanes, Cirrus engines, B.T.H. magnetos, Chrysler cars, Shell Spirit and the British Aviation Insurance Group for the financial support which their advertisements have given in producing the booklet. It is equally a credit to the compilers and the printers and it ought to do the Club a lot of good.—C. G. G.

MOTHS FOR CANADA.

Two Moths for the Canadian Government were tested during the week. These two machines, in accordance with standard Canadian practice, are painted bright yellow so that, in the event of forced landings on snow, lake or forest, they can be easily detected from the air.

Besides these the Canadian Government has ordered ten Moths (Cirrus Mark II) for the equipment of Flying Clubs. These machines are to be delivered in Canada to enable flying to start in the early spring.

The De Havilland Company deserve hearty congratulations on being so successful in securing Canadian orders in the face of the keen competition of airplane manufacturers in the United States.

MOTHS FOR ITALY.

On Wednesday, Nov. 2, Mr. Alan S. Butler, the Chairman of The De Havilland Aircraft Company Limited, left for Italy on the first of the two Moths which have been ordered by the Italian Government. The machine was handed over to the *Regia Aeronautica* at Milan on Sunday, Nov. 6.

The second Moth equipped as a seaplane will be inspected by General Guidoni at Rochester on Wednesday and will then be flown to Rome.

It is believed that these are the first aircraft to be ordered by the Italian Government in England since the war.

A MOTH IN DENMARK.

The D.H. Moth G-EBSI, which Mr. Hubert Broad flew to Copenhagen for participation in the International Meeting on Sept. 4, has since been purchased by the Danish magazine *Ude og Hjemme* (Out and Home) and has been rechristened T-DALF.

This machine has been flown on a propaganda tour throughout Denmark by Lieut. Steinbeck with Mr. Peter Freuchen, the Danish explorer, as passenger.

A GOOD JUDGE.

Mr. L. L. Irvin of parachute fame has placed an order for a new Moth. He has been in the United States since July and sold his original Moth, G-EBNX, there. Within three days of his return to this country he had ordered a new machine. Mr. Irvin has always been noted for his sound judgment and foresight.

GOING A-BROAD.

Capt. H. S. Broad adopted an unusual mode of travel last Wednesday when he left Hull for Finland by boat, taking with him a Moth seaplane which he will demonstrate in the Baltic countries.

TOWARDS AUSTRALIA.

On Nov. 1 Mr. W. N. Lancaster and Mrs. Keith Miller, who are attempting to fly to Australia on an Avro Avian (A.D.C. Cirrus II engine), left Ziza, Palestine, for Baghdad, but were forced to land at Rutba by bad weather and sand-storms. The R.A.F. had provided an escort of a Vickers Vernon.

A newspaper report says that they have reached Baghdad.

TO CLUBS AND MESSES.

Now that the festive season is beginning (admitting that for some people it never ends), messes and places where they congregate for conviviality will do well to investigate the price of soda water, remembering that this commodity is largely consumed by those who do not consume alcohol as well as by those who do.

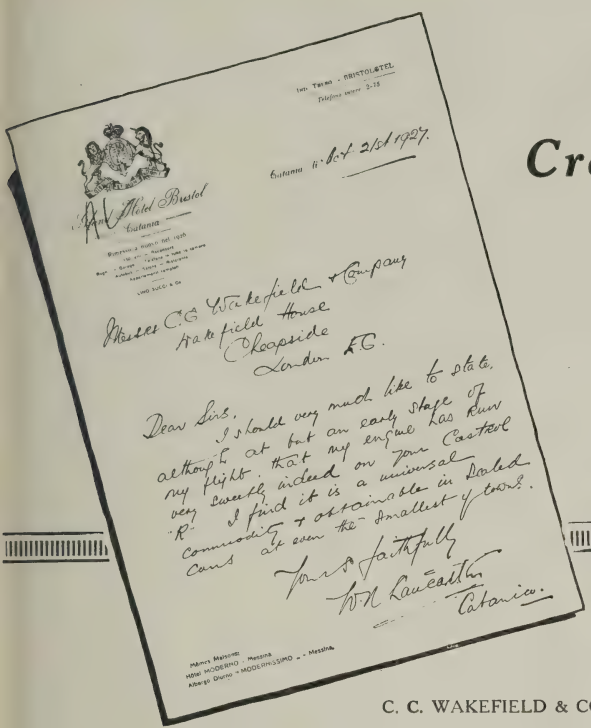
One good way of economising is to install a Sodax outfit, for which the makers claim, on good evidence, that it is the most efficient machine for making aerated waters. It is simple, fool-proof and practically everlasting. It manufactures soda water at a cost of ½d. per dozen bottles. (Compare that with the price of syphons or bottled soda.) Skilled labour is not required, and it can turn out 150 bottles per hour.

The Sodax machine itself is a very simple fitting, which is screwed onto the standard outlet screw of a standard cylinder of carbonic acid gas, which is the gas universally used for aerated water. Cylinders of this gas can be got in any town of any importance all over the World.

Some idea of the cost of operating the outfit may be gathered from the fact that a Sodax machine to fill the standard six-ounce soda-water bottle costs ten guineas. Exclusive of the deposit on the cylinder, a 2-lb. cylinder of gas costs 3s. and will fill 200 six-ounce bottles. A 28-lb. cylinder of gas costs 10s. and will fill 3,500 six-ounce bottles.

Sodax outfits are in use in a number of His Majesty's ships and in the messes of several regiments, as well as in numerous clubs and hospitals. One has been used in the R.A.F. Club for a considerable time, and among the latest purchasers is the R.A.F. Depot Mess at Uxbridge.

Sodax outfits, together with cylinders and a supply of bottles, and, if desired, flavourings for making aerated soft drinks, can be had from Sodax Ltd., 175, Piccadilly, W.1, who will be pleased to send full particulars, or give free demonstrations of the outfit to enquirers.



BY APPOINTMENT TO HIS MAJESTY THE KING

Croydon to Australia Flight.

Capt. W. N. Lancaster, piloting Mrs. Keith Miller in an Avro "Avian" who left Croydon on October 14th, testifies to the efficiency and World wide popularity of——

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 14; Tuesday, 8, Wednesday, 14; Thursday, 16; Friday, 16; Saturday, 18; Sunday, 2.

IMPERIAL AIRWAYS LTD. :

London — Paris — Zurich; London — Ostend — Brussels — Cologne : Machines 33, passengers 196, freight 10 tons.

AIR UNION :

Paris—London : Machines 33, passengers 90, freight 11 tons.

K.L.M. :

Amsterdam—Rotterdam—London : Machines 12, passengers 42, freight 2½ tons.

SABENA :

Brussels—London : Machines 5, passengers 4.

DEUTSCHE LUFTHANSA AG. :

Brussels—London : Machines 12, passengers 20

PRIVATE :

Machines 1, passengers 0.

Total number of trips by British Machines 34, carrying 196 passengers. Foreign Machines, 54, carrying 156 passengers.

COMPARATIVE FIGURES

Week ending Nov. 6 :

Machines, 88; Passengers, 352; Crews, 159; Total personnel, 511.

Corresponding week, 1926 :

Machines, 69; Passengers, 208; Crews, 81; Total personnel, 289.

Corresponding week, 1925 :

Machines, 67; Passengers, 183; Crews, 80; Total personnel, 263.

Corresponding week, 1924 :

Machines, 85; Passengers, 285; Crews, 106; Total personnel, 391.

Corresponding week, 1923 :

Machines, 71; Passengers, 167; Crews, 107; Total personnel, 274.

Corresponding week, 1922 :

Machines, 45; Passengers, 160; Crews, 73; Total personnel, 233.

Corresponding week, 1921 :

Machines, 67; Passengers, 96; Crews, 99; Total personnel, 195.

Corresponding week, 1920 :

Machines, 52; Passengers, 79; Crews, 63; Total personnel, 142.

Croydon Notes.

Yet another service is to operate on the London-Paris route in the Spring of 1925. The K.L.M. have for long operated two legs of the triangle Amsterdam-London-Paris and intend next year to complete the triangle.

According to present information at least two machines will cover the whole round trip, one in each direction each week day. This arrangement will mean between 800 and 900 miles per day for each machine on the service, which will be a distinct increase on the amount of work which can be got out of a machine running backwards and forwards on any one leg of the triangle.

During the past week there appeared at Croydon a Fokker F.II (B.M.W. engine) of about the 1921 vintage. This particular machine bears Belgian registration, belongs to the Sabena, and is being used on their regular service between Brussels and London when traffic does not justify the use of the Handley Page Hamiltons which have been used during the Summer. Despite its age, this machine appears to be in first-class order and flies excellently.

Mr. Perry, of Imperial Airways, reports a somewhat curious phenomenon observed during a flight from Le Bourget to Croydon during the last week. On the trip in question the whole of his route from Le Bourget as far as the British Coast was under low cloud. This cloud came down very nearly to the ground, though there was usually 500 to 1,000 yards' visibility on the surface. The cloud layer was about 3,000 feet thick, and very wet.

Knowing that Croydon and a very considerable area around it was clear, Mr. Perry climbed above the clouds immediately on leaving Le Bourget, and in the ordinary way tried to get into wireless touch with the various stations along his route to check his position and course. In this effort he failed completely. Once when he must have been approximately over Abbeville he got through to that station, which gave him a position on the face of it absurd.

Further efforts to use his wireless were entirely ineffective, until at last he saw a sudden drop in the level of the cloud layer below him. Recognising this as a sign that he had reached the coast, he went down to get below the clouds so that he might pick up his land-fall on this side of the Channel. Immediately he got well into the cloud layer his wireless came into action and he was able to communicate normally with all stations within range.

There is a possibility that this failure to get anything through by wireless when above the clouds was caused by some failure on the part of his own set. The fact that he got through to one station when he must have been very close indeed to that station, and that this station obtained an obviously distorted directional reading, together with the fact that everything came in normally as soon as he got into the clouds suggests another somewhat disturbing possibility.

A layer of very wet cloud has probably quite a noticeable electrical conductivity, and a very extensive layer of such cloud 3,000 ft. thick might quite conceivably act as a very effective shield against wireless transmission of such power as is used for communication from aircraft.

If such a layer had enough conductivity to act as an effective screen its surfaces would act as reflectors of wireless waves, much as the so-called Heaviside layer of the atmosphere does. When such clouds were practically on the ground, as they were in this case, the waves would be confined between ground and the upper surface of the cloud, and a machine flying above that cloud would receive at best only very weak signals. (Actually, Mr. Perry did receive a number of signals, too weak to be interpreted.)

The false position given to him from Abbeville would suggest that there was somewhere about a break in this conducting layer, and that Abbeville actually received a signal reflected from the edges of this break.

If this is the true explanation it is a somewhat serious affair, for it means that just when a pilot most needs wireless for navigational purposes it may quite impossible to use it.

There is no record, so far as can be discovered, of a similar failure of wireless under exactly these conditions, so that it may be that there was something exceptional about the conditions on that particular day. On the other hand, there may be many cases where pilots have failed to get through from above the clouds, have assumed that the fault was in their wireless set, and have not bothered to try it after they have come down below the top of the clouds, and therefore have failed to notice that their sets came into action again after entering the cloud layer. At any rate, the matter calls for very careful investigation.—W. H. S.

A GERMAN ACCIDENT.

On Nov. 1, Herr Karl Plauth, one of the chief pilots of the Junkers Flugzeugbau, was killed at Dessau while trying to do an outside loop. He failed to get the machine onto its back and with engine full on he flew into the ground from 3,000 feet.

NEW COMPANIES.

AIR COMMUNICATIONS LTD.—Private Co. Registered Nov. 5. Capital, £100 in 1s. shares. Objects : To carry on the business of manufacturers and repairers of and dealers in aeroplanes, airships, air 'buses and all other machines or devices for aerial navigation, etc. The subscribers (each with one share) are : J. Wilkins, 12, Parkview Road, Croydon, Surrey, accountant; W. Vidgean, 117, Church Street, Croydon, Surrey, clerk. Secretary : J. Wilkins.

AIRWAYS PUBLICATIONS LTD.—Private Co. Registered Oct. 25. Capital, £1,000 in £1 shares. Objects : To carry on the business of printers, publishers, newspaper and magazine proprietors, newsagents, etc. The first directors are : W. Newton, 9, Parkhill Road, N.W.3, publisher (chairman and managing director); A. G. Linney, 26, Gledhow Gardens, S.W.5; T. S. Sprigg, address not stated. The two last named are joint managing directors. W. Newton and A. G. Linney are permanent. Qualification : £150. Remuneration of permanent directors as fixed by the board. Secretary : E. White. Solicitor : B. Mills, 4, Romford Road, Stratford. Registered office : 110/111, Strand, W.C.2.

PERSONAL NOTICES.

DEATH.

BAYLY.—Sq. Ldr. Leonard Joseph St. George Bayly, M.C., R.A.F., who died on Oct. 23, as the result of a motor accident, joined the R.F.C. from the R.G.A. in 1917. He served with distinction throughout the War 1914-18 and was awarded the Military Cross on Jan. 1, 1918, for distinguished services rendered in connection with the military operations in Mesopotamia. He was promoted to the rank of Captain, R.G.A., in November, 1917.

After the Armistice he was posted to No. 47 Squadron in Egypt with the rank of Flight Lieutenant. In 1921 he was restored to the

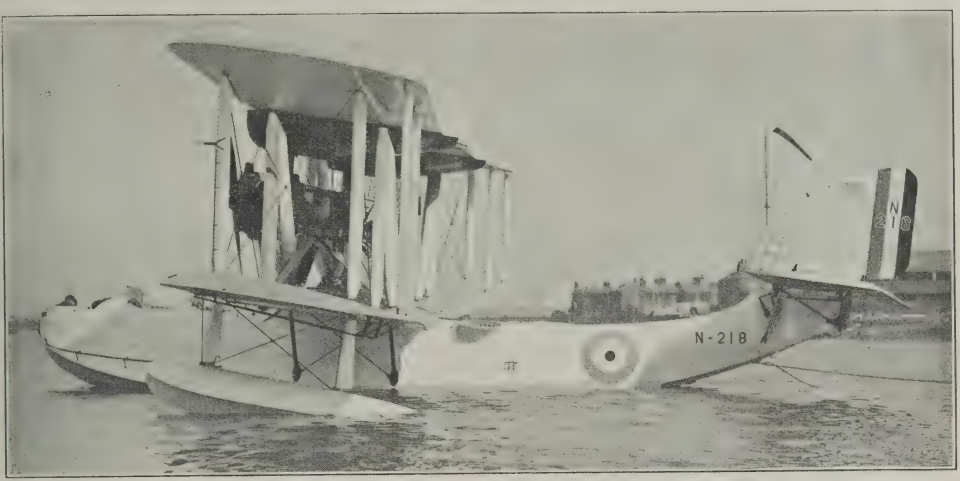
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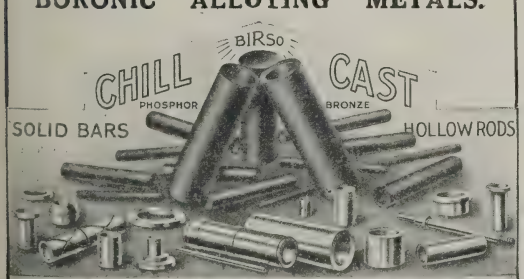
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Home Establishment and posted to No. 207 Squadron, Bircham Newton. In the following November he went to No. 1 School of Technical Training, Halton. In October, 1924, he was posted to the Electrical and Wireless School, Flowerdown, and in October, 1925, he was posted to No. 99 (Bombing) Squadron, Bircham Newton.

He was promoted to the rank of Squadron Leader in July, 1926.

MARRIAGE.

HODGSON—ADAMS CLARK.—On Nov. 4, at Hurst Parish Church, Berks, Flt. Lt. Edgar Arnott Hodgson, R.A.F., son of the late Mr M. Hodgson and of Mrs. Hodgson, Harton, to Hilda St. Clair, daughter of the late Major Adams Clark and Mrs. Adams Clark, Winnersh, Berks.

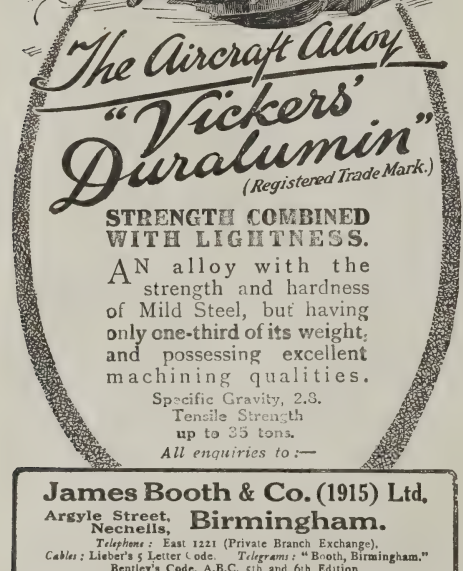
FORTHCOMING MARRIAGE.

McLOUGHLIN—DORMER.—The engagement is announced between Flt. Lt. Eugene J. McLoughlin, eldest son of the late Eugene McLoughlin and Mrs. McLoughlin, of 10, Falkland House, Cheniston Gardens, W.8, and Miss Ferdinande Mary, eldest daughter of Mr and Mrs. John Dormer, of 40, Prince's Gardens, S.W.7.

BIRTHS.

DOWDING.—On Nov. 5, at 29, Sheldon Avenue, Highgate, N., to Kathleen Marjorie Kingsford (*née* Wilson), wife of Kenneth Townley Dowding (late R.A.F.)—a daughter.

RIDLEY.—On Nov. 3, at 55, Lancaster Gate, W., Naida (*née* McAlpine), wife of Sq. Ldr. C. A. Ridley, D.S.O., M.C., of a daughter



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MISCELLANEOUS ADVERTISEMENTS.

TO PERSONAL ADVERTISERS :—If you want to sell anything advertise it in THE AEROPLANE "Small Advert." Column. Read what one of the biggest producers in this country says :— "Oct. 27.

"As soon as THE AEROPLANE appeared we were inundated with requests for this book, and I am afraid we shall not be able to comply with any more we may receive.

"Quite a number of the requests are from Air Force officers and other ranks, and of course we are only too pleased to send them copies of any publication we produce in this way."

EMPLOYMENT.

NOTICE.—We have supplied from our Register many first-class Aero-Engine Fitters, etc., and WANT MORE IMMEDIATELY. ALL seeking Aircraft employment should communicate with Capt. F. Warren Merriam, A.F.C., A.F.R.Ae.S. His employment bureau is licenced by the L.C.C. and recognised by the leading Aircraft Firms. Address, 64, Victoria Street, S.W.1. Telephone, Victoria 8428.

FOR SALE.

D.H.53 Blackburne engine. Condition as new. £80. Apply Box No. 5428, THE AEROPLANE, 14, Bream's Buildings, E.C.4.

Practical Petrolmotor Castings. Half horse-power, 9s. 9d., with cylinders bored. Catalogue 3d. Madison's, Harrington Road, Littleover, Derby.

PATENTS.

The Owners of Patents Nos. 102624 relating to "Improvements in multi-cylinder motors with radially arranged cylinders," 128653 for "Improvements relating to internal combustion engine valve mechanism, 140529 for "Improvements in connecting-rod big ends for internal combustion engines," and 145398 for "Improvements in springs for the valves of explosion motors," are desirous of negotiating with interested parties for the granting of licences thereunder on reasonable terms. For information apply to Messrs. Lloyd Wise and Co., Chartered Patent Agents, 10, New Court, Lincoln's Inn, London, W.C.2.

SITUATION VACANT.

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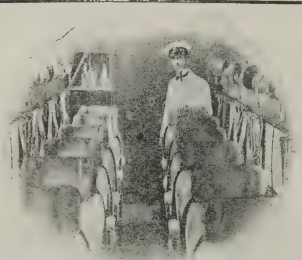
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INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Gorey

Vol. XXXIII. No. 20. SIXPENCE WEEKLY. Registered at the G.P.O. as a Newspaper.

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"O MONSTROUS! O STRANGE! WE ARE HAUNTED!"

(SHAKSPEARE—*Midsummer Night's Dream.*)



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THE AEROPLANE

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VOL. XXXIII. No. 20.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON GETTING FOREIGN BUSINESS.

Some few months ago, on Aug. 17, to be precise, THE AEROPLANE drew the attention of the British Aircraft Industry to the need for meeting the competition of American aircraft makers in the British Dominions Overseas, and in all those partially developed countries where there are the greatest uses for air transport. One pointed out that the Americans are specialising on a type of air transport machine which has no precise counterpart in this country. That is a simple monoplane carrying four passengers and a pilot at about 120 to 130 m.p.h. with a 200 h.p. engine.

Since that article appeared one has learned that at least one French firm is now experimenting with an all-metal monoplane of very similar type. And there are one or two German machines also in that category.

WHAT WE CAN DO.

In the original article one regretted the fact that there was no engine in this country which could do precisely the job which the Wright Whirlwind does in all those American machines. The nearest approach to it that we have is the Armstrong-Siddeley Lynx, but that is only rated at 185 h.p. against the Whirlwind's 200 h.p. However, the Lynx will probably be boosted before long to give 200 h.p., as it is always our custom in this country to boost our engines by about 25 per cent. after they have passed through all their teething troubles at a lower power.

That recent magnificent flight by a three-engined Fokker machine with Lynx engines from Amsterdam to Batavia and back, doing an average of about 800 miles a day, and doing in 28 days an out-and-home trip which the best boats take 32 days to do in one direction, proves that we have in the Lynx an engine which for sheer reliability is right in the front rank.

Also one has heard, from R.A.F. Training Stations where the Lynx is now used regularly, that it stands up very well to the irregular use of training work (which in some ways is harder than steady long-distance flying). And one hears that its oil consumption is particularly low.—This is very important, as it is one of the points on which American engines have scored heavily in the past.

Consequently there is no reason why intelligent British designers should not produce a commercial monoplane, improved on the designs of the Bellanca and Ryan and Travel Air, which will put up rather a better performance carrying the same load with a Lynx engine.—And, incidentally, with the added advantage of slot control.

If anybody in this country has the enterprise to tackle this particular type of work, we can quite well have machines of this type actually flying, and on offer in the Overseas Markets, by next March. But if we do not, those markets by that time will be flooded with sample machines of similar type from America.

THE OVERSEAS VIEW.

The attention of the Aircraft Industry is particularly drawn to this point because of a letter which came last week from Australia. Part of this letter reads as follows:—

> Needless to say, I was most interested in your leading article dated Aug. 17, following as it did on our previous correspondence on this subject.
>
> Speed Racing is of little value to, and has little connection with, Commercial Aviation, and a reliability trial for the King's Cup would undoubtedly do far more to impress the general public with the fact that aviation is now a regular and ordinary means of travelling, in competition with trains, ships, etc.
>
> I am mostly concerned, however, with the future of British aircraft in Australia. At the present time they are inviting us to link up with America, and the U.S. Trade Commissioner is leaving no stone unturned to get the products of American firms in the air here. I will give you a brief outline of the position.

The writer proceeds to relate that a certain firm in Australia has been trying to get from one British aircraft manufacturer or another a licence to build that firm's machines in Australia.

So far the only British firm which is actually having machines built in Australia to its designs is the De Havilland Company. D.H.50s have been built by the Quantas people and West Australian Airways Ltd. And recently Major



FOREIGN TRADE.—A Moth (Cirrus) for Italy.—Mr. Lankester Parker (Short Bros.' test pilot) on left, with General Guidoni, the new Director-General of Aircraft Construction in the Regia Aeronautica.
("Aeroplane" photograph.)

Hereward de Havilland established a firm of his own to build in Australia Moths or anything else designed by his brother's firm.

The Tariff Wall.

To complicate the affair still further the Australian Government, through one of its departments—which is known as the Tariff Board,—has recently imposed a substantial duty on aircraft parts. Hitherto the duty has only been chargeable on complete aeroplanes. But now the evident, and perfectly understandable, policy of the Australian Government is to have the whole aeroplane, and probably its engine, built in Australia.

As the writer of the letter already quoted says :—

To all thinking people it must be obvious that we cannot afford to be dependent on overseas firms, 10,000 or more miles away, for our aeroplanes. In times of emergency we would find ourselves in a hopeless position.

On the other hand, we cannot establish an industry here in competition with industries which have been established for so many years in Europe and America. For this reason the Tariff Board put a duty on imported aircraft parts.

Design Licences.

The writer goes on to say that certain Australian firms have negotiated for design licences with certain English firms who have been quite willing to enter into negotiations. But he says that the terms required from the Australian firms are such that business is not possible.

According to him English firms expect a definite guarantee of business, when as yet no business has been created. He asks firms at home to remember that there are at present only about fifteen aeroplanes commercially employed on regular air routes in Australia, and about the same number being used by the flying clubs, besides about three or four private owners. And he points out that a guarantee of business with an existing market such as this, with a population of only six millions, is impossible.

He advises British firms to co-operate with energetic, well-established and properly equipped Australian firms so that their agencies may be well rooted in the early stages. Continuing, he says :—

The American motor-car agencies were established in this way many years ago. Guaranteed returns were not asked of agents until such time as the market had been created. This was a very wise procedure, as the agents all worked very hard for the ultimate benefit of the manufacturer, who was in a position to sell the Agency Agreement to the highest bidder when the contract with the original agent expired.

The Problem to Face.

These views of our Australian friend are really most enlightening, for although at the moment they apply only to Australia, they will probably apply equally in time to South Africa and New Zealand. Also, when the much-talked-of "India for the Indians" Government comes into being we may be up against similar problems in India.

Certainly we are up against still more difficult competition in Canada, in that American machines can be flown from their own factories to their customers. And replacement parts can reach Canadian customers from American factories in a few days. Therefore, if we are to do business in Canada, there is still greater need for British manufacturers to produce types such as their customers demand and to arrange for the manufacture of those types on the spot.

The parallel between the American motor-car agencies in Australia and the present position of the Aircraft Industry is not quite exact. There never was any question of motor agents in Australia buying manufacturing rights. So far as one's knowledge goes, no motor-cars have ever been made in Australia,—with perhaps the exception of a few which have been built more or less as a hobby.

If there had been any question of building cars in Australia, the English manufacturer would probably have scored. American cars got the business in the Colonies (as we used to call our Overseas Dominions in the old days) because they were mass-production jobs and so could be sold very much cheaper than English cars. Also they were more suited to the roads in the Colonies. Also, because they were mass-production jobs, spare parts were much cheaper and more easily got

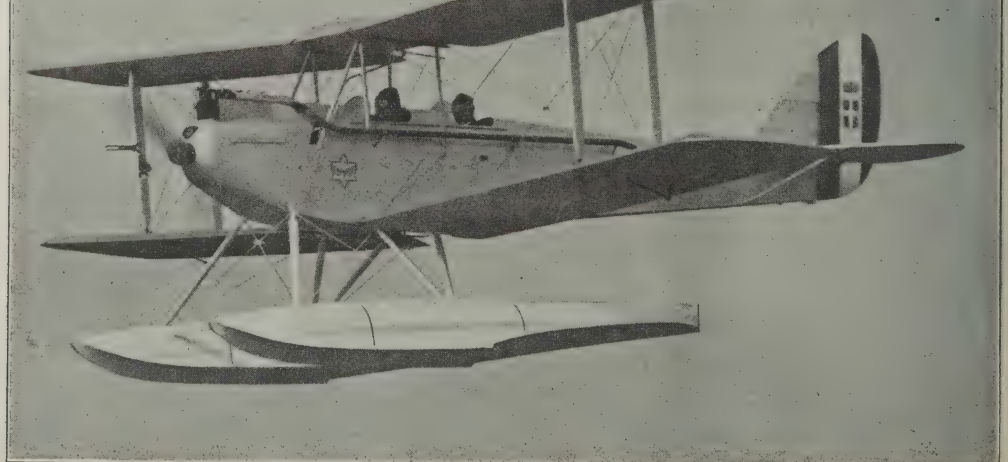
But if anybody in Australia had started to manufacture cars to American designs they would have found them much more expensive to build than English cars, simply because the English hand-made design would have been easier to make in Colonial workshops than would the American mass-production designs which would have needed all kinds of special tools, which, building in small quantities, would have made the cars cost very much more than the English designs.

Where aircraft are concerned things are quite different. There is no mass-production of American aircraft at present. And, as a matter of fact, building aircraft to American designs would probably be cheaper than building to English designs. The ordinary American commercial monoplane, with its steel-tube bracing and welded-steel fuselage, would probably be very much cheaper to build than the typical English biplane with its intricate construction of highly machined timber, and metal clips, and wires and adjusters.

Face versus Finance.

There is still another reason why the Americans got the Colonial market for motor-cars. And it is a reason which may operate against us equally in fixing up agencies or manufacturing-rights in the British Dominions overseas to-day. That is the matter of choosing our agents.

In the early days of motor-cars, an American maker was much more likely to choose his agent for his face than for his finance. Even as far back as the bicycle days, before there were any motor-cars, British manufacturers were apt to give their agencies to good solid old-established business firms in the Colonies, who tried to sell bicycles in the good old English way, as if they were selling household furniture or farm implements,—forgetting that in selling bicycles they were dealing with a younger generation who wanted what we in these days call snappier methods. The American



A MOTH FOR ITALY.—General Guidoni and Mr. Lankester Parker in the Moth (Cirrus engine, Short floats) which has just been bought by the Regia Aeronautica. —(*"Aeroplane" photograph.*)

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manufacturers came along and gave their agencies to young and pushing business men who hustled around and got the business, while the old-fashioned firms sat in their shops and waited for the customers to come to them.

History repeated itself exactly in the motor trade. The British motor manufacturer insisted on bank guarantees, and on guaranteed sales, before he would let a firm have his agency. The American manufacturer as often as not gave his agency to one of the young and pushing firms who had grown up from the bicycle trade, the chiefs of which were still young enough to hustle. When these hustling methods were added to the cheapness and other attractions of the American cars, naturally the Americans got the business.

When the British motor manufacturer finally awakened to the fact that the Americans were getting his business, he sent representatives to the Colonies to fix up agencies on what, to him, seemed to be tempting terms. The manufacturer's representative, full of the old idea of wanting to do business with well-established firms, generally went and offered the agencies to what looked like wealthy motor firms.

In many cases these firms had built up their business entirely on the sales of American cars. And, when the English representative came along, they simply took the agency with the minimum guarantee of sales to which they could beat down the representative.

And then they took excellent care not to sell even that number of cars if they could help doing so. In other words they took the British agencies and deliberately bottled them, to prevent other and more pushing firms from getting hold of the English cars and cutting into their own trade with the American cars.

A Matter of Policy.

Within the last four or five years, thanks almost entirely in the first place to the enterprise of Mr. Morris of Oxford, English firms have been building cars specially for the Overseas market, which in type, price and equipment of gadgets, compete with the American cars,—and beat them on looks and quality. Consequently, the British Motor Trade is now getting back quite a goodly proportion of the trade which it lost to the Americans. But if the British Motor Trade had had the sense in the first place to produce cars of the type which were wanted for Colonial roads, *and* to place their agencies with young and pushing people instead of with old established firms and merchants, *and* to produce cars deliberately designed for cheap producion, the American automobiles would never have got the Colonial market and this country would have been, as a matter of plain financial fact, some hundreds of millions of pounds richer than it is to-day.

If we are going to escape the same thing happening again our aircraft manufacturers must avoid the mental state of the average English manufacturer of the past.

The old idea that English goods will sell all over the World at top prices because they are so much better than anybody else's, must be forgotten. That was all very well in the days of Queen Victoria, when "Made in America" meant flashy finish and gimcrack material, and "Made in Germany" meant solid stuff but rough finish. In these days American products are still finished to catch the eye, but they are also built to stand up to rough usage.

Consequently, although we can get our higher prices for English goods, because of our higher class workmanship in detail, we must remember that people overseas do not care so much about high-class finish if they can get reliability at a lower price. If a piece of bent-steel rod screwed at each end does a job of work reliably, there is no object in using a special drop-forging machined on four sides, with about six drilling and screwing and machining operations at each end.

Fortunately, in quite 50 per cent. of English manufacturing businesses to-day, the management has now passed into the hands of young and pushing people who have acquired pretty fair working knowledge of American methods,—thanks to a prolonged course of American advertising and American automobiles and American movies and American dance-music and American plays in this country

American methods have so penetrated into this country now that there is hardly any difference in the language or outlook of the people who really count in the two countries. But there is still the need to urge our manufacturers not to become too self-satisfied, and to remind them that though everything worth while in America is done by people of English, Scottish, Welsh or Irish descent (with a small percentage of Scandinavian and German, which is the same thing), those who are our relatives on the other side of the Atlantic are descended from people who, anything between twenty and two hundred years ago, had the energy and enterprise to get up and get out of this country and get on in America.

In thus endeavouring to open the eyes of the British Aircraft trade to the danger of losing business abroad one is in no way moved by any ill-feeling against the American-English. One has at least as many friends in the States as one has in this country, and one has the most intense admiration for the ingenuity and energy which is inherited by the children of Englishmen who cross the Atlantic.

But The Aeroplane is, after all, European-English. And so one is merely in the position of a man in Liverpool pushing Liverpool business against Manchester business. And, after all, competition is good for trade, so the more competition there is between American and English manufacturers for aircraft business in the British Dominions and other countries overseas, the more trade will be done in aircraft.—C. G. G.

VALE ATQUE SALVE.

One of the saddest things about international relations is that no sooner have we come to know representatives of other nations in our midst and learned to appreciate them at their full worth than in the ordinary course of duty they are transferred to another sphere of activity and we have to begin all over again making new friends. In a way this has its advantages because the friends whom we have made here remain our friends when they go to other capitals or are appointed to more important work at home. And, we also have the opportunity of making new friends of the representatives who replace them here.

Few representatives of foreign nations have earned the esteem and personal liking of the aeronautical people in this country to the same extent as has General Guidoni, who for several years has represented the *Regia Aeronautica* so adequately. As one of the great pioneers of European aviation, and one of the two first aviators in Italy, he was naturally received with respect when he came here comparatively a stranger. But his deep knowledge of practical aeronautics, his personal charm, and his quiet but penetrating sense of humour, soon won for him the complete confidence and personal esteem of all who came in contact with him.

His return to Italy to take up the important post of Director General of Aircraft Construction is most sincerely regretted by everybody in this country.

As a small expression of that regret General Guidoni was entertained to lunch on Nov. 4 by representatives of the Royal Aeronautical Society and the Royal Aero Club, with T. O. M. Sopwith, himself one of the earliest pilots in this country and now Chairman of the Society of British Aircraft Constructors, in the Chair. Everybody expressed their regret at his departure and joined in good wishes for his personal success in his new post and for the continued progress in power and technical development of the *Regia Aeronautica*.

The new Italian Air Attaché will be General R. Verduzio, who is already well-known to many of those who are most concerned with the higher politics of British Aviation. General Verduzio had a highly distinguished career during the War and there can be but few people concerned with aircraft who know more about all phases of aviation than does this distinguished officer. One bespeaks for him a welcome as sincere as are our regrets at the departure of his highly esteemed predecessor.—C. G. G.

PAROCHIAL VISITATIONS BY AIR.

On Saturday, Nov. 12, the Rev. Mr. Bate, secretary of the Colonial and Continental Church Society, formally took delivery at Stag Lane of a D.H. Moth ordered by the Society.

This machine is to be shipped to New South Wales for the use of the Rev. Mr. Daniels, who has the cure of a parish considerably larger in area than the whole of England.

Mr. Daniels has been a pupil at the De Havilland school of flying during the past few months, and has taken his ticket in very good style. He will fly the machine himself, and will be enabled to visit in a few hours parts of his parish which otherwise would mean several weeks of travel.

MOTHS FOR SWEDEN.

Capt. Carl Florman, of the Swedish A/B Aerotransport, paid a visit to the De Havilland Aircraft Co. last week, and placed with that firm an order for three D.H. Moths.

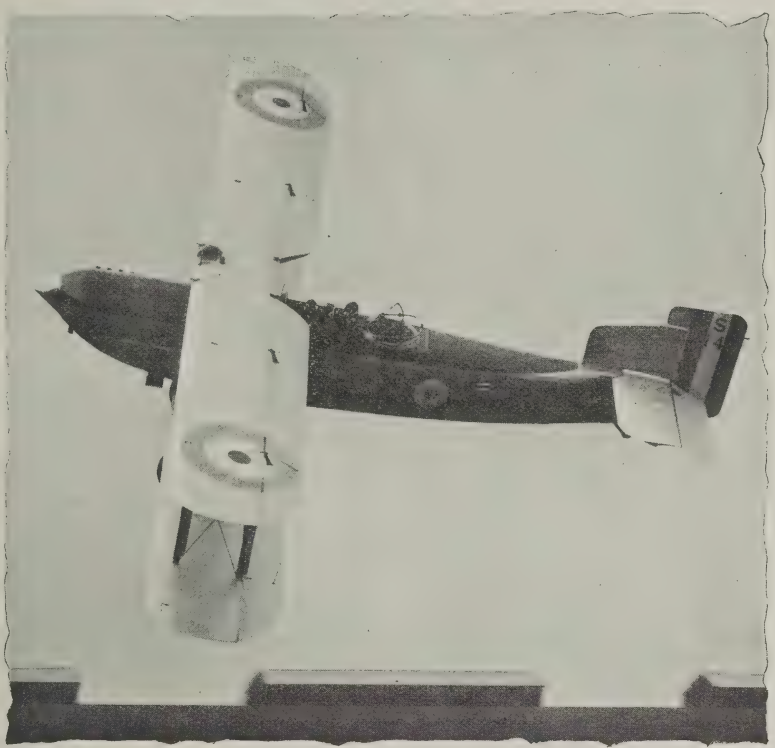
These are to be used at a new flying school which A/B Aerotransport are to open at Stockholm on Feb. 1, 1928. The machines will be fitted with both wheel and float undercarriages, so that instruction in flying both aeroplanes and seaplanes can be given.

A MOTH FOR RHODESIA.

On Monday, Nov. 7, Mr. R. W. Reeve, of the De Havilland Co., made test flights on a Moth which has been ordered by the Rhodesian Aviation Syndicate of Bulawayo. The tests were watched by Mr. A. J. Hay, known throughout sporting and business circles in South Africa as "Tottie" Hay, on behalf of the purchasers.

This machine is being shipped to Durban and will be erected there and flown to Bulawayo by Capt. Mail, A.F.C., a well-known South African joy-ride pilot, with Mr. Hay as a passenger. The machine will be used at Bulawayo for photographing and instruction.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

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THE INTERNATIONAL AIR CONGRESS AT ROME.

The fourth International Air Congress, held at Rome between Oct. 24 and Oct. 29, was really a dual affair. In addition to the public Congress open to members from all over the world, there was sitting at the same time the thirteenth session of the International Commission for Air Navigation—or C.I.N.A., as it is commonly called.

This latter is a meeting of the representatives of those governments who have ratified the International Convention for Air Navigation of 1919, for the purpose of discussing amendments or additions to the terms of that Convention.

The Congress, on the other hand, is an International aeronautical "pow-pow," rather on the lines of the annual British Association meeting in this country, for the ventilation and discussion of aeronautical opinions and theories, whereas the Conference is an official commission on International Aerial Law whose recommendations may have an immediate and important effect on the development of aviation throughout the World.

The most striking feature of this dual aeronautical meeting at Rome was the very thorough way in which the Italian Authorities organised arrangements for the convenience and comfort of those attending.

Air Congresses have been held before—including one in London in 1923—but there has certainly never before been one organised on so thorough and lavish a scale as this one at Rome.

The Splendour That Was Rome.

On the morning of Oct. 24 the inaugural meeting of the Congress was held in the Senatorial Chamber of the Capitol. His Excellency Mussolini himself addressed the meeting, which was attended by many other high officials of State, including, of course, General Balbo, the Under-Secretary of State for Aeronautics, and by representatives of the Diplomatic Corps in Rome.

On the afternoon of that same day the Governor of Rome gave a reception for the members, also at the Capitol.

Try to imagine an Aeronautical Congress in London whose opening ceremony was a State function, in which the Prime Minister, supported by representatives of his Cabinet, took an active part, and you will realise that neither the people nor the Government of Britain as yet take Aviation quite so seriously as it is taken in Italy.

The equivalent of the reception by the Governor of Rome—a reception by the Lord Mayor of London at the Mansion House—is itself rather more than one would expect for such a Congress in this country.

Normal business meetings of the Congress were held in the Palazzo Corsini. Here were provided spacious lecture rooms for each of the five sections into which the Congress was divided, together with comfortable and spacious reading and writing rooms, and a buffet, open during the whole day, where refreshments were provided free.

Copies of all papers to be read, together with booklets in Italian, French and English, giving summaries of all these papers, were available in larger numbers than were required to provide each member with a complete set. In addition, volumes containing reports of recent Italian aeronautical research work (the Italian equivalent of the British "R. and Ms."—Reports and Memoranda—but bound into volumes), statistics of Italian Commercial Aviation, and so forth, were to be had for the picking of them up from the tables whereon they were laid. Also there were beautifully printed pictorial souvenirs of Rome, well worth framing, and equally free for the taking.

Incidentally, the Congress literature was all the product of the Italian State Printing Works.

Members of the Congress were made free of the Aero-Club, and were entertained there every night. Their cards of membership of the Congress were free passes to all the Museums, Art Galleries and other such establishments in Rome, Tivoli and Ostia.

On the afternoon of Oct. 27 no papers were read, and members of the Congress were taken on a Tour of Rome, during which they were shown many of the historical features of that city which are not normally open to the casual visitor.

Festivals and Functions.

The business of the Congress ended on the morning of Oct. 29 with a final meeting of the whole body, which was addressed by Signor Balbo, and on that same evening the members were given a farewell dinner at the Hotel Excelsior.

On Sunday, Oct. 30, the anniversary of the Fascist march to Rome, was celebrated, and members of the Congress were invited to witness the official ceremonies.

From Oct. 31 to Nov. 5 a series of excursions for those members who wished to see more of Italy than Rome and its environs were arranged. For these—or any other excursion—the membership card of the Congress entitled the holder to tickets on the State Railways at half ordinary fares.

The organised excursions were to Naples (Oct. 31), Milan (Nov. 2), Turin (Nov. 3), and Venice (Nov. 5). At each of these cities members of the Congress were the guests of the Aero Clubs of these cities, and were escorted by members of the Clubs either to aeronautical establishments or to places of more general interest, as pleased them best.

The more serious business of the Congress—the reading and discussion of papers—occupied morning and afternoon sessions on Oct. 25 to Oct. 28 inclusive, except for the afternoon of Oct. 27, which was devoted to the tour of Rome.

Meetings were divided into five sections: Aerial Transport; Aerodynamics and Meteorology; Technical; Legal; and Medical. Something over 100 papers were contributed by authorities from all over the world.

As to the details of these papers, one can here say little. So far only the summaries have been examined, and these are designed rather to indicate the subject of each paper than the actual arguments contained in them. It is, however, certain that the complete reports of the proceedings will contain a vast amount of useful and interesting information on all branches of aeronautics.

The proceedings of the International Conference on Air Navigation were held in private. An official report on the results of this Conference has been issued, and a summary of this report will be found elsewhere.

Italy's Example.

The main object of this note, however, is not so much to describe the technical results of the Roman meetings as to stress the fact that the Italian Government has shown that it considered the holding of these meetings on Italian territory as being of the very first importance and worthy of doing everything possible to make the Congress successful.

Members of the Congress were not treated merely as visitors who had some right to be recognised by the Department of Aeronautics. They were treated as guests of the Nation, and were practically made free of Italy for the time being.

They were vastly impressed by the hospitality extended to them. And they have received the strongest possible impression of the vitality of Italian aviation, and of the efforts which are being made by the Government of that country to build up a great Italian air power, military and civil.

We in this country can hardly expect that the British Government, when next the International Air Congress falls in England, will go quite as far as the Italian Government seems to have done. We have not, and are not likely for some time to have, a Prime Minister who is also First Lord of the Air, as Signor Mussolini is.

But the development of aviation is at least as important to this country as it is to Italy. It is necessary in the public interest that British prestige in aeronautics should be maintained throughout the World at the highest possible standard, and the Italian Government having shown the way in this, as in certain other matters, it is up to the Air Ministry to see that the next Air Congress held in London shall stand comparison with the one just ended at Rome.

The Royal Aeronautical Society, the Royal Aero Club and the S.B.A.C., can be counted upon to give their wholehearted assistance in organising such an affair. But they have not the resources to compete with the Government of a Great Power in the running of either Congresses or Schneider Trophy Races. So official backing is required for the one as for the other.—W. H. S.

THE INTERNATIONAL COMMISSION FOR AIR NAVIGATION.

The thirteenth session of the International Commission for Air Navigation, or *Commission Internationale de Navigation Aéronautique* (known as the I.C.A.N. or the C.I.N.A.), held at Rome between Oct. 25 and Oct. 28 under the presidency of General Piccio, the senior representative of the Italian Government, was attended by the representatives of twenty-three out of the twenty-five States which are parties to the International Air Convention of 1919.

These twenty-three States (the British Empire counting for six), in alphabetical order, together with the names of their principal representatives, were:—Belgium (General Van Crombrugge); British Empire (Air Vice-Marshal Sir Sefton Brancker, and Wing Cdr. W. H. Anderson, Royal Australian Air Force); Bulgaria (M. A. Samardjieff); Chile (Snr. J. R. Echeverria); Czecho-Slovakia (M. Z. Janak); Denmark (Mr. Knud Gregersen); France (M. P. E. Flandin and M. Camerman); Greece (Admiral Botassis); Italy (General Piccio and Prof. Cogliolo); Japan (Mr. Kawai and General Sugiyama); Persia (Baron de Pollikoff); Poland (M. Lebinski); Roumania (General Lazarescu); Serbia (Com-



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mandant Bratchitch); Siam (Luang Bahiddha Nukara); Sweden (Mr. Pousette); and Uruguay (Snr. Carlos Pons).

The business of the Commission is that of discussing amendments or additions to the terms of the 1919 Convention which may be proposed by the various States concerned, and the chief representatives are accompanied for that purpose by technical advisers. The Commission as a body has power to modify the regulations imposed by the Convention, and its decisions become at once part of the International Convention.

At this session the Commission discussed thirty-two proposals for such modifications Among the more important of its decisions were the following :—

(1) To adopt new regulations for International minimum requirements for the granting of certificates of airworthiness.

(2) To fix the frequency of the medical examination for holders of licenses as pilots, navigators, etc.

(3) To adopt a standard of aeronautical technical terms, including equivalent terms in French, English and Italian.

(4) To complete the requirements laid down in Annexe D of the Convention.

(5) To fix a standard form of Certificate of Airworthiness for airships, and to modify the rules concerning the registration marks on lighter-than-air-craft.

The Commission decided to reserve for future study and consideration further steps towards the adoption of a uniform set of requirements for the granting of Certificates of Airworthiness, for the standardisation of methods of medical examinations, and of many other outstanding questions.

Although as before-mentioned the decisions of the Commission are binding on the Governments who adhere to the International Convention, it is for those Governments to translate these decisions into the form of National Air Navigation Regulations, or alternatively to withdraw from the Convention.

So far as is at present known the decisions made at the present meeting will not involve any serious amendations to the British Air Navigation Regulations. They are rather of a nature which will force certain nations whose regulations are less strict than the British to come up closer to our standard.—W. H. S.

SIR PHILIP SASSOON IN NEW YORK.

A Banquet in honour of Sir Philip Sassoon, Under-Secretary of State for Air was given by the Aeronautical Chamber of Commerce of America at the Hotel Biltmore, New York City, on Nov. 3, 1927. The Guests included Col. T. A. Baldwin, Lt.-Col. B. D. Foulois, Maj. C. L. Tinker, Lt. L. J. Martin, all U.S. Air Corps, Mr. Porter Adams, President of the National Aeronautical Association, Mr. Arthur C. Goebel, Winner of the Trans-Pacific Flight Prize, Rear Admiral H. I. Cone, of the Guggenheim Fund, Wing Cdr. T. G. Hetherington, the British Air Attaché, Flt. Lt. A. Jones-Williams, R.A.F., Lt. John W. Iseman, U.S.N.R., Major Clarence M. Young, Director of Civil Aviation, the Aeronautics Branch of the Department of Commerce and Mr. Martin Dodge, of the Merchants' Association of New York.

Mr. Grover Loening, who was presiding as Toastmaster, welcoming Sir Philip Sassoon, said that British and American Aviation both had ample reason for looking back upon the year 1927 with considerable gratification. In the case of British Aviation the crowning achievement was the businesslike, sportsmanlike and technically impressive manner in which the British Team won the Schneider Seaplane Trophy. The British public could also take great pride in the further extension of British air activities in the development of big cruising flying-boats which was now being emphasised by the cruise of the British squadron to the Far East and Australia.

American Aviation was fairly breathless in this year 1927. The trans-ocean flights had been followed up by the proficient and exact achievement of Maitland and Hegenberger. The long list of successful and unsuccessful flights that had followed had given them a net profit of experience of untold value.

Many Americans believed that the real importance of 1927 from the aviation standpoint was that it was the first year in which American civil aviation has made a profit in its various phases. There were no Government subsidies in America. The biggest thing in American commercial aviation was the vast growth of private ownership and the tremendous number of fixed-base air service operators who were making real money. The Air Mail contract routes were making a real profit on their own resources.

The progress made recently in equipment and military development by the Army and Navy Air Services was a matter of proud record. The aviation programme had been placed in able and experienced hands and had resulted in a sound building up of the Government's aeronautical source of supply.

The American Technical developments in military aircraft were equal to any in the world and if they were to apply their industrial production methods they would have a distinct advantage in the world markets.

Mr. C. M. Keys, President of the Curtiss Aeroplane and Motor Company, apologised for making a speech in such distinguished company and told the following story :—

General Lord told recently a story that illustrates exactly how I feel about my part in this big game. There was a fellow once who went out West on a lecture tour about the conservation of the forests. In a little town in Missouri he delivered his speech. At the end of it he shouted: "Is there a single man in this room who has ever raised a finger, or done a single thing to help conserve the forests? If there is, let him speak up and tell us about it!"

After a long pause, a little old man in the back of the room held up his hand. "Well, uncle, tell us what you did!" demanded the lecturer. "Mister," he said, "day before yesterday I shot a woodpecker!"

"That's about my size," said Mr. Keys. "If, Sir Philip, you should encounter in England any of my friends, please tell them for me that I am, in aviation, a mere shooter of woodpeckers—and that in an age when spruce is rapidly becoming obsolete and most of the woodpeckers have been shot."

Continuing, Mr. Keys said that few men who spoke English, except perhaps the Mayor of Chicago, failed to realise that in England's will and England's strength lay the World's main hope of lasting peace in Europe and in Asia. After sketching the history of the various engines which had won the Schneider Trophy in the past, Mr. Keys asked Sir Philip to tell the company exactly what kind of monkey glands had been used on the Napier Lion—a 450 h.p. motor that had suddenly delivered 1,000 h.p. That was the woodpecker he would like to shoot that night.

Americans were not ignorant of the fact that England had seen enormous progress in aviation. They had noted carefully the various Service and civil accomplishments of the past year and knew that England slept no longer in aviation.

Mr. W. P. MacCracken, Jr., Assistant Secretary of Commerce, said that America was still engaged in the initial stages of Government participation in civil aeronautics while the British Government had had many years of interesting and valuable experience. Although the U.S. Government had not provided a subsidy for either commercial air transport or flying clubs it had endeavoured to develop, to the highest possible degree, co-operation between the Government and the Industry in an effort to foster, promote and regulate civil aeronautics.

Sir Philip Sassoon said that his decision to visit America was due entirely to his meeting Colonel Lindbergh in London shortly after his New York—Paris flight. The look that came in Lindbergh's eye when he talked of the Pursuit Squadron at Selfridge Field had been more impelling than a thousand Pied Pipers. When he visited Selfridge Field he had found that Lindbergh had underrated the Squadron.

Sir Philip Sassoon had just completed a short tour of the American aeroplane factories and flying fields. A newspaper report says that during his visit to Detroit in the course of his tour Sir Philip was presented with a new Ford motor-car by Mr. Henry Ford.

ANOTHER AIR SURVEY CONTRACT.

The Aircraft Operating Co. Ltd. has recently made a contract with the Benguella Railway Co., whereby they are about to undertake an air survey of that part of the Lungwe Bungu River in Angola Territory, adjoining Rhodesia. Permission from the Portuguese authorities has already been obtained for doing the work.

This new contract will form an extension of the Zambesi air survey contract, which the Company is now undertaking for the Government in Northern Rhodesia, and towards the cost of which the Benguella Railway Company are also contributing. Under that contract the Aircraft Operating Co. are making an air survey of the Lungwe Bungu River, up to the Angola boundary.

The combined operation will form a comprehensive scheme for the investigation of the Zambesi and Lungwe Bungu Rivers, as a possible means of communication between Livingstone and Lobito Bay.

The Company's astronomical unit left N'Changa, the present headquarters of the expedition, en route for the Zambesi, on Oct. 8. They will work down the Kabompo River, fixng control points, then up the Lungwe Bungu River and finally down the Zambesi to Livingstone.

It is expected that flying operations will start about the beginning of December.

WIRELESS AIRCRAFT.

The Times correspondent at Marseille reported on Nov. 14 as follows :—

A Breguet biplane flying under wireless control without a pilot has been tested successfully at Istres. In the last few days it has made several pilotless flights and has taken off and landed 11 times without a mishap. The French Government Air Official Trials Committee has decided to accept the device and the machine will be brought to Paris shortly.

The Royal Aircraft Establishment at Farnborough made an experimental machine with wireless control during the War 1914-18. Its joyous escapades were fully described in The Aeroplane several years ago.

Some four or five years ago a flight of standard service machines of the U.S. Army were equipped with wireless control and were taken-off, flown across country and landed safely by a controlling machine flying with them. Each machine carried a pilot to ensure its safety in case anything went wrong with the wireless control, but none of the pilots had to take charge.

The French did four years ago much the same thing as is described in the paragraph quoted. So this merely indicates that experiments with improved apparatus are continuing.

Whether there is any use for radio-control of aircraft in war is a subject which offers excellent opportunities for debate.

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THE ROYAL AIR FORCE.

The London Gazette.

Nov. 8.

General Duties Branch.—Flt. Lt. R. S. Greenslade is granted a perm. comn. in this rank (Nov. 1, 1926). The notification in the *Gazette* of Sept. 9 transferring Flg. Off. R. N. Hesketh to the Reserve is cancelled. The following are transferred to the Reserve, Class A:—Flg. Off. K. K. Brown, Flg. Off. A. H. Grace, Flg. Off. E. J. H. Wright (Nov. 13); Flt. Lt F. A. Swoffer, M.B.E. (Nov. 14).

Flg. Off. G. C. A. Armstrong ceases to be seconded for service as Aide-de-Camp to the Governor of South Australia (Oct. 31); Flg. Off. J. F. Lawn takes rank and precedence as if his appointment as Flg. Off. bore date Aug. 3, immediately following J. B. Buckley, Sub-Lt., R.N., Flg. Off., R.A.F., on the gradation list. Reduction takes effect from Oct. 26. P. B. McDonald, Lt., R.N., Flg. Off., R.A.F., relinquishes his temp. comn. on ceasing to be attached to the R.A.F. (Oct. 24); Flg. Off. L. E. Cutforth (Lt., R.A.) relinquishes his temp. comn. on return to Army duty (Nov. 8).

The following Plt. Offs. relinquish their S.S. comns. on account of ill-health (Nov. 9):—P. V. Anson, L. K. Mundy. The following resign their S.S. comns:—Flg. Off. E. H. Collinson, M.C. (Major, East Surrey Regt., R.A.R.O.) (Oct. 31); Plt. Off. W. S. Townend (Oct. 24).

Stores Branch.—The following Flg. Offs. are granted perm. comns. in this rank with effect from the dates stated, on completion of probationary service:—J. R. R. Harvey, M.M. (Oct. 1, 1926); A. E. Connolly (Oct. 25, 1926).

Plt. Off. on probation Robert Stanley Sawyer is confirmed in rank and promoted to the rank of Flg. Off. (Oct. 9).

Medical Branch.—Flg. Off. W. D. McKeown, M.B., is promoted to the rank of Flt. Lt. (Nov. 3).

Reserve of Air Force Officers.—General Duties Branch.—H. Haigh is granted a comn. in Class B.B. as Plt. Off. on probation (Nov. 8); Plt. Off. E. I. C. Wyllie is promoted to the rank of Flg. Off. (Nov. 3). The following officers on probation are confirmed in rank (Nov. 3):—Sq. Ldr. C. D. Stewart; Plt. Off. F. H. Dight. Flg Off. N. M. Ffrench is transferred from Class A to Class C (Nov. 3). The following relinquish their comns. on completion of service:—Flg. Offs.—W. E. de B. Diamond (Sept. 16); C. B. Collins (Sept. 18); F. Tymms, M.C. (Oct. 1). Plt. Off.—J. Woods (July 22). Flg. Off. A. J. Insall relinquishes his comn. on completion of service and is permitted to retain his rank (Oct. 24); Flt. Lt. J. G. Horne relinquishes his comn. on account of ill-health, and is permitted to retain his rank (Nov. 9).

Appointments.

Week ending Nov. 14.

General Duties Branch.—Group Captain C. E. H. Rathborne, D.S.O., to R.A.F. Station, Upper Heyford, to command, 25/10.

Wing Commanders A. T. Harris, O.B.E., A.F.C., to R.A.F. Depot, Uxbridge, Supernumerary, 21/11. A. G. R. Garrod, M.C., D.F.C., to R.A.F. Station, North Weald, to command, 27/9. G. I. Carmichael, D.S.O., A.F.C., to R.A.F. Depot, Uxbridge, Supernumerary, 17/11. R. H. Peck, O.B.E., to Air Ministry, Directorate of Operations and Intelligence, for Air Staff duties, 17/11.

Squadron Leaders D. E. Stodart, D.S.O., D.F.C., to No. 9 Sqdn., Manston, 7/11. E. D. Johnson, A.F.C., to No. 3 Sqdn., Upavon, 15/9. F. R. Alford, M.C., to No. 7 Sqdn., Worthy Down, 7/11. J. H. O. Jones, to No. 10 Group H.Q., Lee-on-Solent, 24/9.

Flight Lieutenants E. D. Davis, to Armament and Gunnery School, Eastchurch, 10/10. A. L. A. Perry-Keene, to R.A.F. Depot, Uxbridge, 31/10. K. B. Lloyd, A.F.C., to Aircraft Depot, 'Iraq, 21/10. E. D. Barnes, to No. 30 Sqdn., 'Iraq, 22/10. R. C. Savery, D.F.C., to Electrical and Wireless School, Flowerdown, 3/11. T. Henderson, M.C., A.F.C., to R.A.F. Depot, Uxbridge, 7/10. T. S. Ivens, to No. 208 Sqdn., Middle East, 26/10. S. N. Webster, A.F.C., to No. 35 Sqdn., Martlesham Heath, 9/11. F. C. B. Savile, to R.A.F. Station, Upper Heyford, 25/10. O. E. Worsley, to Central Flying School, Wittering, 20/11. G. G. H. Du Boulay, to Superintendent of R.A.F. Reserve, Northolt, 16/11.

Flying Officers E. C. Barlow, to Aircraft Depot, 'Iraq, 25/10. K. C. Garvie, to No. 30 Sqdn., 'Iraq, 22/10. (Hon. Flt. Lt.) W. F. Humphery, to H.Q., 'Iraq, 21/10. R. N. Hesketh, to No. 1 School of T.T. (Apprentices), Halton, 14/11. C. J. Stone, to R.A.F. Depot, Uxbridge, 11/11. J. F. Lawn, to No. 56 Sqdn., North Weald, 31/10. F. Porter, to No. 13 Sqdn., Andover, 1/12. M. C. W. C. Flint, to No. 30 Sqdn., 'Iraq, 20/10. J. H. Powle, to No. 5 Sqdn., India, 12/10. H. S. Martin, to Aircraft Depot, India, 10/10

Pilot Officer H. F. Gower, to No. 3 Sqdn., Upavon, 2/11.

Medical Branch.—Wing Commander A. S. Glynn, M.B., to Palestine General Hospital, 22/10.

Flight Lieutenants C. T. O'Neill, O.B.E., M.B., to No. 20 Sqdn., India, 20/9. A. Harvey, M.B., to No. 47 Sqdn., Middle East, 10/10. J. D. Leahy, M.C., M.B., B.A., to R.A.F. Station, Upper Heyford, 14/11.

Flight Lieutenant (Dental) M. J. O'Reilly, to H.Q., 'Iraq, 18/10.

Flying Officers E. J. Jenkins, to No. 43 Sqdn., Middle East, 15/10. J. Hill, M.B., to Home Aircraft Depot, Henlow, 26/10. J. D'I. Rear, to R.A.F. Pathological Laboratory, Halton, 9/11. S. F. Heatley, M.B., B.A., to R.A.F. Depot, Uxbridge, 9/11.

Stores Branch.—Flight Lieutenants T. E. Drowley, to R.A.F. Station, Upper Heyford, 25/10. W. St. J. Littlewood, to Station H.Q., Bircham Newton, 22/11.

Flying Officer R. T. Rich, to No. 1 School of T.T. (Apprentices), Halton, 1/11.

Accountant Branch.—Flying Officers C. F. Goatcher, to H.Q., Middle East, 26/10. H. J. Titherington, to R.A.F. Base and Stores Depot, 'Iraq, 13/10. K. A. Jackman, to Station Accounts Office, Hinaidi, instead of to Aircraft Depot, 'Iraq, as previously notified, 20/9. R. G. D. Thomas, to No. 26 Sqdn., Hawkinge, 22/11.

A Fatal Accident.

The Air Ministry regrets to announce that Flg. Off. Campbell Mackenzie-Richards, the pilot of the aircraft, was killed on Nov. 9 as the result of an attempted parachute descent at East Grinstead from a Bristol Fighter machine of the Royal Aircraft Establishment. The passenger, Mr. Harry Norman Green, made a safe descent by parachute.

An inquest was held at East Grinstead on Nov. 12.

Mr. H. N. Green, the observer, who was in the aeroplane with Flg. Off. Mackenzie-Richards, said that after they left Croydon, at about 7 p.m., they tried to find Farnborough. The compass was 30 deg. out when they left. They made some adjustments which Richards hoped would improve it, but he was still dissatisfied. When they got into the air from Croydon they tried to make for Farnborough, but failing in this, they thought the best thing would be to go back and find Croydon. They flew back without seeing anything they recognised until they estimated they were about over Croydon. They could not pick up any indication of Croydon nor could they see any lights.

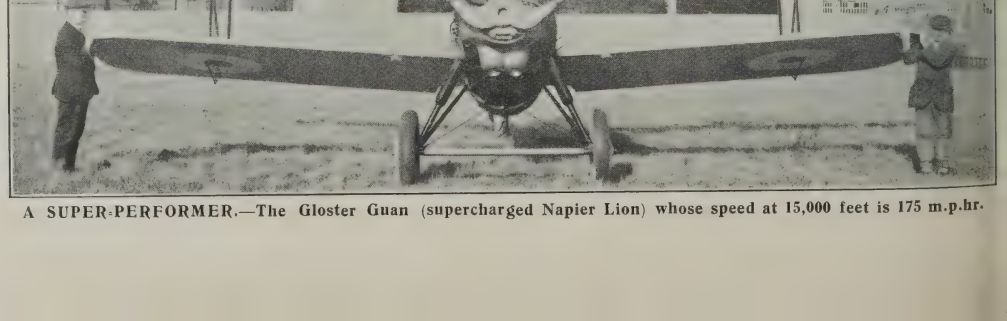
They talked on the telephone and finally Mackenzie-Richards said, "Do you think we had better try a forced landing before we run out of petrol?" He understood they had 20 minutes' supply of petrol. Mackenzie-Richards came down low and asked him to look for a field. Presently he said he could not see a field that he could land in and he lit a flare. There was a certain amount of mist, but nothing exceptional. They just missed some trees and climbed to a height of about 2,000 ft.

Mr. Green said he had one foot on the seat and one on the side waiting for the signal to go. The pilot throttled the engine down and turned round. He continued:—"I leaned forward and shouted to him, 'Do you want me to go?' I think he said 'Yes.' I said 'Give me the signal when you are ready.' He turned round, put his hand out and pushed me in the face, and pushed my goggles sideways. I thought that was the signal and I jumped." He landed in a field and was perfectly all right.

The Coroner: "It appears to me that the pilot did, unfortunately, make an error of judgment, and that he jumped when the aeroplane for some reason had got into a nose dive. He was up about 2,000 ft when he considered they must leave the aeroplane, and he did, no doubt, see that everything was safe for Mr. Green. It seems to me that, knowing Green had not used a parachute before, he made sure he would land safely, and did not realise he was not as far in the air as he was before. From the evidence it appears he made every effort to open the parachute, but he apparently struck the ground before it opened."

Mr. Green, recalled, said the fact that the compass was defective was discovered when they had been in the air about two or three minutes. He believed the cause of the compass going wrong was that a wire carrying a current ran somewhere close to it.

Major Cooper, of the Accidents Investigation Sub-Committee, informed the Court that the compasses were checked periodically on the ground, and he was satisfied that this compass had been tested at certain periods. He pointed out that this was an experimental aircraft, which had certain experimental lights, and said the evidence suggested that one of the pieces of wiring had an effect on the



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A ROLLS-ROYCE AERO ENGINE in a Handley-Page aeroplane flew from **BRUSSELS** *to the* **BELGIAN CONGO** *in* 1925.

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compass after the machine had left the ground. It was quite possible the error in the compass only occurred when the current was generated.

Questions which arise are, (A) Why had the machine not been flown in daylight with all its lights on, to see whether they affected the compass? (B) Why where there no lights visible from a distance at Croydon or Farnborough? (C) Why was the machine carrying so small a supply of petrol? —C. G. G.

The Far East Cruise.

The Service Flying Boat cruise of four Supermarine Southampton flying-boats (Napier Lion engines), under the command of Group Capt. H. M. Cave-Browne-Cave, D.S.O., D.F.C., which left Cattewater on Oct. 17, reached Shatt el Arab, Basrah, on Nov. 10.

The Flight left Basrah on Nov. 13 and reached Bushire on the same day. They were escorted by six R.A.F. machines of the Iraq Command.

The Flight arrived at Hanjam Island, in the Straits of Ormuz, on Nov. 14.

The Armistice Day Ceremonies.

Marshal of the Royal Air Force Sir Hugh Trenchard laid a wreath on the Cenotaph on Nov. 11 on behalf of the Royal Air Force.

A detachment of the R.A.F. formed part of the Guard of Honour round the Cenotaph during the ceremony. Trumpeters of the Royal Air Force sounded the Last Post.

After the ceremony at the Cenotaph, Marshal of the Royal Air Force Sir Hugh Trenchard, who was accompanied by Air Vice-Marshal Sir Philip Game and other senior officers of the R.A.F., laid a wreath on the R.A.F. Memorial on the Embankment on behalf of the R.A.F. Memorial Fund.

Wreaths were also laid on the Memorial by the Australian liaison officer, on behalf of the Government and people of Australia and by the Canadian liaison officer on behalf of the Royal Canadian Air Force. A wreath was also laid by a detachment of the W.R.A.F. on behalf of the Women's Royal Air Force, Old Comrades' Association.

The Fleet Air Arm.

The Times of Nov. 12 states :—

With effect from to-day, Cdr. W. G. Benn, late Fleet Navigating Officer on the America and West Indies Station, is taking up duty at the Air Ministry in the Department for Supply and Research. He succeeds Cdr. R. Ramsbotham, who is to resume duty afloat in the aircraft-carrier *Hermes*.

This ship returned to the Nore on Oct. 31 from the China Station, and is to refit and recommission at Chatham. Her present executive officer is Cdr. Patrick Butter.

The engineer officer of the *Hermes* is also being changed on recommissioning, and Engineer-Cdr. George Bevis will be succeeded by Engineer-Cdr. W. V. Kennaway, late of the cruiser *Dartmouth*.

Other appointments to the *Hermes* include that of Lieut.-Cdr. J. A. Garland, both to the ship and for observer duties. Last year Lieut.-Cdr. Garland studied at the Air Force Staff College, Andover. He has previously served in the *Hermes* as an observer, when she was in the Mediterranean, in 1924-25.

Punitive Operations in 'Iraq.

A *Reuter* message from Baghdad in *The Times* of Nov. 15 states :—

A Wahabi tribe from Central Arabia, under the leadership of a notorious Akhwan Sheikh, attacked a post of 'Iraqi Frontier Police in the Nasiriyah district recently and killed five policemen and 12 labourers, including some women, engeged in construction work. One policeman and one labourer escaped.

A force of Desert Police, despatched from Nasiriyah, found the mutilated bodies of the victims. A squadron of the Royal Air Force from Basra then carried out punitive operations against the tribe responsible for the outrage.

Commands and Staff.

Group Capt. C. E. H. Rathborne, D.S.O., whose appointment to command the R.A.F. Station, Upper Heyford, is dated Oct. 25, 1927. He was a Lieutenant, R.M.L.I., when he joined the second course at the Central Flying School, Upavon, in 1913. His Royal Aero Club Certificate, No. 437, is dated Mar. 4, 1913.

After his flying training at Upavon he was appointed to the newly-formed R.N.A.S. seaplane station at Felixstowe under Capt. Risk, R.M.L.I., who died recently as a Lt.-Col., R.A.F. (retired).

Group Capt. Rathborne was awarded the D.S.O. in January, 1919. The wording of *The London Gazette* is as follows :—

In recognition of his gallantry and devotion to duty during the course of a long-distance air raid in which he acted as pilot of a fighting machine which formed part of the escort. Wing Cdr. Rathborne was brought down whilst protecting the bombing machines, his engine having been put out of action. It was owing to the gallantry and self-sacrifice of this officer and those of the other fighting machines that all the bombing machines returned safely from the raid.

In December, 1919, he was awarded a Bar to the D.S.O. For gallantry while a Prisoner of War in escaping from captivity.

In April, 1920, he was appointed to H.Q., Coastal Area, for Air Staff Duties. In September, 1923, he was appointed to command the Marine Aircraft Experimental Station, Felixstowe.

In September, 1925, he was posted to 'Iraq to command the Station H.Q. at Basrah. He was promoted to the rank of Group Captain in July, 1925.

Group Capt. Rathborne has passed the Civil Service Examination for Interpreter in German.

Wing Cdr. A. G. R. Garrod, M.C., D.F.C., whose appointment to command the R.A.F. Station at North Weald is dated Sept. 27, 1927, served with distinction in the R.F.C. during the War 1914-18. He was awarded the Military Cross in February, 1915, and the Distinguished Flying Cross in June, 1919.

On the outbreak of War in 1914 he was a 2nd Lieut. the Third Battalion, the Leicestershire Regt. (Special Reserve) and transferred to the R.F.C. as Flying Officer Observer on Oct. 21, 1915. He was appointed Staff Captain in December, 1915, and promoted Capt., the Leicestershire Regt. in March, 1916. He was appointed to command a Squadron, R.F.C., in January, 1917, and was gazetted Major, R.A.F., in April, 1918.

After the Armistice he was on the staff of H.Q. No. 22 Group, Dunfermline. In September, 1921, he went to the R.N. Staff College, Greenwich, and in July, 1922, he was posted to the School of Army Co-operation, Old Sarum. In 1923-24 he was appointed to the staff of the R.A.F. Staff College, Andover.

In September, 1927, he was attached to H.Q., Fighting Area. He was promoted to the rank of Wing Cdr. in July, 1925.

Wing Cdr. Richard Hallam Peck, whose appointment to the Air Ministry Directorate of Operations and Intelligence for Air Staff duties is dated Nov. 17, 1927, was born in 1893 and educated at St. Paul's and Brasenose, Oxford. He entered the East Surrey Regt. as a 2nd Lieut. in 1915, and was seconded to the R.F.C. in January, 1916. He was promoted to command a Squadron in August, 1917.

In 1919 he resigned his Army Commission on appointment to a permanent commission in the R.A.F. He was awarded the O.B.E. in June, 1919. In November, 1921, he was posted to H.Q., 'Iraq Group, Middle East Command, and in May, 1922, he was appointed to Air Staff Duties, H.Q., 'Iraq Command. He was mentioned in Sir John Salmond's despatches from Kurdistan in 1923.

From May to December, 1924, he commanded No. 84 (Bombing) Squadron, 'Iraq. In 1925-26 he passed the Staff course at the Staff College, Camberley.

In Memoriam.

On Armistice Day a wreath was placed on the grave of the late S.M.1 Erik Haug, at Keston, Kent. The wreath was subscribed for by the Members of the Station Serjeants' Mess, R.A.F., Kenley.

The following Warrant Officers, and N.C.O.s, representing the Units as stated, took part in the ceremony :—S.M.1 Frier (R.A.F., Cranwell), S.M.2 Kinna (No. 14 Sqdn.), F-S. Diment (No. 2 Sqdn.), F-S. May (R.A.F., Aboukir), F-S. Stewart (No. 216 Sqdn.), F-S. Hollier (No. 6 Sqdn.), Sjt. Brannen (No. 32 Sqdn.), Sjt. Winton (No. 32 Sqdn.), Sjt. White (No. 23 Sqdn.), Sjt. Forbes (No. 1 Sqdn.), Sjt. Duncton (No. 23 Sqdn.).

An International Courtesy.

On Nov. 8, in the Town Hall of Aschach, two members of the British Legation in Vienna, expressed this country's appreciation of those who rescued Flt. Lt. Carr, D.F.C., and Flg. Off. E. C. Dearth, R.A.F., on Aug. 2, when these two officers were forced to descend on the Danube while attempting a non-stop flight from England to India.

After expressing Britain's gratitude for his act the two representatives made a presentation to Johann Auer, who discovered the two officers and was largely responsible for their rescue. Presentations were also made to Johann Hinterberger, who assisted in the rescue and also to five others who, in spite of the strong current of the Danube, volunteered to bring the wreckage of the machine ashore.

R.A.F. SPORTS AND PASTIMES.

The Sandhurst—Cranwell Match.

The R.M.C., Sandhurst, beat the R.A.F. Cadet College, Cranwell, at Sandhurst, on Nov. 12, by four goals and nine tries (47 points) to a try (3 points). This score may suggest that Cranwell was a completely demoralised side but this was not so. They were outplayed by a stronger, faster and heavier team, but they finished game.

Judging from the form they showed in this game it is not hard to understand how Sandhurst, not at full strength, beat the Army Trial XV by 20 points to 6 on Nov. 9. They have a strong active pack of forwards, a scrum-half whose days as an International player are obviously not far off, and a fast and powerful three-quarter line. There is not a weak link in the team.

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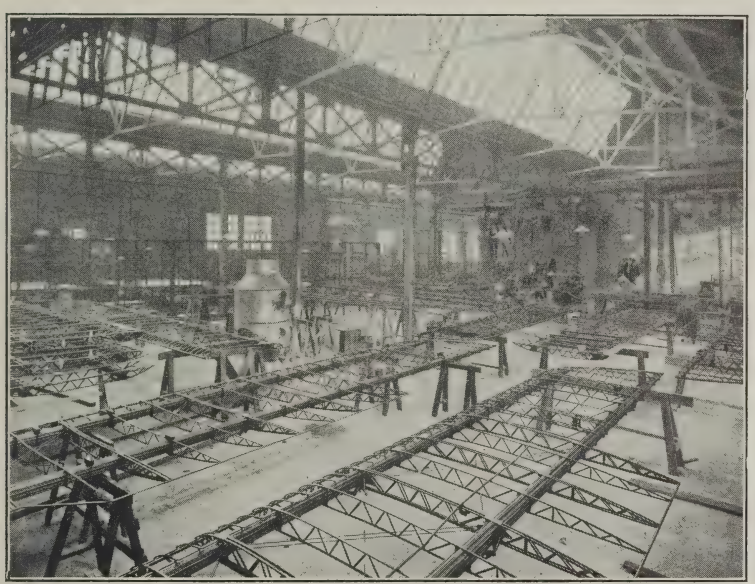


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The weakness of the Cranwell team seemed to be in their inability to finish off an attack and a lack of speed and defence. Several times a good three-quarter movement was spoiled by a hopelessly wild pass and several times the forwards broke away with the ball at their feet but knocked-on in trying to gather it. Their tackling was good. Every man went low and hard, but the tremendous speed of the Sandhurst backs was too much for them and each man passed the ball before he went down.

The game was fast and open and typical of the Services, hard going all the time, and practically no penalties.

The Cranwell match against the R.M.A. Woolwich will be played at Cranwell on Nov. 19, and on Nov. 23 the Cadets will play the R.A.F. Trial XV at Cranwell.—C. M. MCA.

The Yarmouth Dinner.

On Saturday, Oct. 29, there was held at the Café Royal, Regent Street, the eighth annual Re-union Dinner of officers who served at Great Yarmouth and its sub-stations up to the time of its demobilisation. Air Commodore C. R. Samson, C.M.G., D.S.O., A.F.C., was in the chair, and seated to starboard was Rear-Admiral Ellison, C.B., R.N., a very welcome guest of honour.

To all those pessimists who tell us that the re-union dinner will soon die, let them leave Yarmouth out of their calculations. This year 41 were present, a very visible increase over the previous year, and this in spite of death and the exigencies of the Service which robbed the gathering of a few of its best-known faces.

In spite of much protest one has been given the task of "writing-up" the dinner. One went to the dinner as an ex-junior officer with an open mind and came away more or less with the same rank but with a decidedly muddled mind, and even time, the healer, has failed to make the intervening events any the more clearer.

The Chairman explained how on his wanderings about the World on Service flights he always met Yarmouth people and then proceeded to recall incidents of the old days many of which drew laughs from all and blushes from a few. To endeavour to mention quips and quaint utterings from all the speeches, even if one could remember them, would absorb much space. So one will end up by saying once again that "Old Yarmouth never dies but merely passes out" (once a year).—L. B.

ROUSING THE WRAFS TO WRATH.

On each anniversary of Armistice Day a detachment of ex-members of the Women's Royal Air Force has been accustomed to lay a wreath on the Cenotaph on behalf of the Corps. This year all ex-Service Women were asked to march with the British Legion.

On arriving at Wellington Barracks, the W.R.A.F. Detachment found that Lady Londonderry claimed to be in charge of the women's column, though she is not herself an ex-Service Woman as she did not serve with any of the three Women's Corps, but organised an irregular force known as "The Women's Legion."

This lady ordered the Detachment to leave the W.R.A.F. wreath in the barrack square, as she herself had supplied a wreath for all ex-Service Women. And she announced that nobody would be allowed to leave the column on its march past the Cenotaph. Furthermore, Lady Londonderry refused to allow the Section Commanders of the three Women's Services to accompany her to the Cenotaph from the head of the column.

Declining to acknowledge the authority of Lady Londonderry, but reluctant to break the column, the W.R.A.F. detachment carried its wreath past the Cenotaph, through Scotland Yard, and onto the Embankment, where a wreath was placed on the R.A.F. Memorial. The Detachment then re-formed and, by the unfailing courtesy of the Police, was allowed to return direct to the Cenotaph, where the W.R.A.F. wreath was duly deposited, according to plan.

In future years the W.R.A.F. will probably revert to their original practice of going to the ceremony on their own account, so as not to be liable to interference from non-Service people.

Another mild complaint from the W.R.A.F. is that the short ceremony at the R.A.F. Memorial, when wreaths are laid on the Memorial by representatives of the R.A.F. Memorial Fund, the Air Forces of Canada and Australia and the W.R.A.F., was ended before the W.R.A.F. representatives could possibly arrive, a discourtesy which one is sure the R.A.F. itself would be the first to deplore.

For the benefit of the younger readers of THE AEROPLANE it should be explained that the Women's Royal Air Force was a corps raised in 1918 by the Air Council to effect the substitution of women for airmen in certain trades throughout the R.A.F.

The Corps consisted of 556 officers and 31,764 other ranks. In other words its other ranks were as numerous as those of the R.A.F. to-day.

Its discipline and moral were high. Its spirit was keen. And its services were handsomely acknowledged by all commanding officers under whom its units served.

Therefore its representatives are entitled to more consideration than was shown to them at either ceremony on Friday last.

WITHOUT APPARENT SHAME.

Speaking at a meeting of the Chelsea Conservative and Unionist Association at Chelsea on Nov. 14, Sir Samuel Hoare, Secretary of State for Air, said :—

The record of the Government in the matter of disarmament during the last three or four years showed that a great effort had been made to reduce unnecessary armaments and to cut down the heavy burden of taxation. In August, 1914, Great Britain had 44 battleships; in July, 1927, that number had been reduced to 12. In August, 1914, we had 80 cruisers; we had now got 37. In August, 1914, we had 183 destroyers; we had now got 89. The number of men and officers in the Navy just before the war was 145,600, whereas last year—the last date for which figures were available—that number was reduced to 100,700.

In 1914 there were 174,500 officers and men in the Army, and last year that number had been reduced to 151,100. Taking all three Services together, he found that in 1914 the combined strength of the British fighting Services was approximately 320,000, and last year, even including about 30,000 officers and men in the new Air Force, the number had been reduced to 284,000.

Putting these figures in terms of money, he found that in 1914 we were spending about £80,000,000 on the fighting Services. The corresponding figure to-day was about £118,000,000. This apparent increase, however, represented an actual decrease.

At the end of the war Great Britain had the biggest and most efficient Air Force in the World, but in the year succeeding the war it was reduced to a strength so insignificant that by the admission of all three parties our position was so dangerous as to make it impossible for any Government to allow it to continue. One of his first duties as Minister for Air was to present proposals for strengthening the Air Force and building up a number of Air Force squadrons for home defence with the object of making the country less liable to some terrible air attack in the future.

To-day, Great Britain had a force of 750 first-line aeroplanes, but the strength of the greatest air power in Europe—and he could make the comparison without fear of being misunderstood, for, happily, we were on the best of terms with France—was 1,350 first-line machines. He did not think any country or Government whose Air Force was only about half the strength of the greatest Air Force in Europe could be accused of militarist intentions.

AIR AFFAIRS IN PARLIAMENT.

FATAL ACCIDENTS IN THE R.A.F.

In the House of Commons on Nov. 9, in reply to a question by COL. DAY, the SECRETARY OF STATE FOR AIR said that the number of fatal accidents in the R.A.F. between Jan. 1 and Nov. 1, 1927, had been 35, and the number during the corresponding part of 1926 had been 46. He did not think any useful purpose would be served by having a public inquiry held into the causes of these accidents. COL. DAY asked Sir Samuel Hoare if he was satisfied that all the machines used by his pilots were thoroughly up to date and not of the old-fashioned kind. SIR SAMUEL HOARE said: "Yes, Sir, generally I am satisfied. The greatest precaution is taken in inspection. Naturally that is a question which we constantly have in mind, and I am satisfied upon it." In reply to CAPT. GARRO JONES, Sir Samuel Hoare said that he was going to make a trial of the new slotted wing device next week.

A WELL-DESERVED AWARD.

The London Gazette of Nov. 11 notified that the King has approved of the award of the Air Force Cross to Lieutenant Richard Read Bentley, M.C., South African Air Force, in recognition of the distinguished service rendered to aviation by his recent flight in a light aeroplane from England to Cape Town.

Few Air Force Crosses have been better deserved than this. All will wish that Mr. Bentley may long wear his well-earned decorations, and contribute to the progress of South African Aviation.—C. G. G.

THE ROYAL AERONAUTICAL SOCIETY (+ &c.).

On Nov. 8 a dinner was given at the Army and Navy Club by the Council of the Royal Aeronautical Society to Colonel the Master of Sempill as a mark of appreciation of his valuable services to the Society while he has been Chairman.

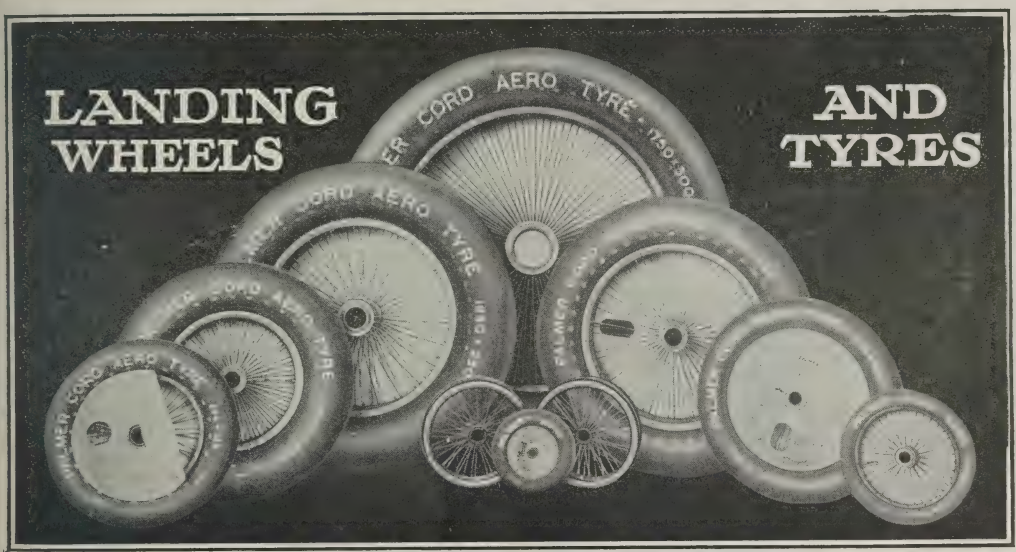
Col. Sempill had in July last the unusual honour of being unanimously elected by the Council, Chairman of the Society for a second year in succession. During his term of office, and largely owing to his tact, the long-drawn-out negotiations between the Society and the Institution of Aeronautical Engineers were brought to a happy conclusion after four years.

Among those present at the dinner were Air Vice-Marshal Sir W. Sefton Brancker, Capt. P. D. Acland, Mr. Griffith Brewer, Major D. H. Kennedy, Mr. A. E. L. Chorlton, Mr. C. R. Fairey, Capt. G. T. R. Hill, Mr. J. E. Hodgson, Mr. H. B Irving, Mr. W. O. Manning, Major R. H. Mayo, Lt.-Col. M. O'Gorman, Mr. F. Handley Page, Mr. J. Laurence Pritchard, Major G. H. Scott, Mr. T. O. M. Sopwith, Sir Vyell Vyvyan, Dr. H. C. Watts, Mr. R. McKinnon Wood.

THE LORD MAYOR'S SHOW HABIT.

The Supermarine S5 (Napier Lion engine), the winning Schneider Trophy seaplane, arrived at the Shadwell Basin, London Docks, on Nov. 14, in the *Sorrento*. It will be unpacked by the Air Ministry and placed on exhibition on the Horse Guards Parade towards the end of the week.

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375×55	168	111.12	25.4	Central	700×100	112	150.	38·09	Central	1000×150	210	185.	60.32	Central
300×60	16	111.12	25.4	Central	,,	176	178.	44.45	Central	1000×180	148	220.	80.	Central
450×60	30	89.	31.75	Central	,,	179	178.	55.	132/46	,,	149	185.	55.	Central
,,	172	130.	38.09	Central	650×125	119	178.	55.	132/46	,,	155	220.	66.67	Central
575×60	21	160.	28.	Central	,,	147	178.	55.	Central	,,	166	185.	55.	125/60
,,	180	150.	38.09	104/46	,,	188	120.	34.92	Central	900×200	107	185.	55.	Central
,,	186	120.	34.92	Central	750×125	77	178.	44.45	132/46	,,	108	185.	55.	125/60
,,	90	150.	38.09	Central	,,	92	185.	55.	135/50	,,	128	220.	66.67	Central
650×65	78	178.	44.45	132/46	,,	95	185.	55.	Central	,,	137	250.	80.	Central
,,	79	178.	44.45	Central	,,	99	178.	38.89	132/46	,,	157	185.	80.	Central
,,	100	178.	38.09	132/46	,,	112	150.	38.09	Central	,,	202	185.	60.32	Central
,,	101	178.	31.75	132/46	,,	176	178.	44.45	Central	1100×220	134	220.	66.67	Central
600×75	21	160.	28.	Central	,,	179	178.	55.	132/46	,,	136	250.	80.	Central
,,	180	150.	38.09	104/46	800×150	161*	185.	55.	135/50	975×225	192	185.	60.32	Central
,,	186	120.	34.92	Central	,,	162*	185.	55.	Central	,,	194	185.	55.	125/60
,,	190	150.	38.09	Central	,,	163*	185.	66.67	135/50	1250×250	133	250.	80.	Central
700×75	78	178.	44.45	132/46	,,	169†	185.	55.	135/50	,,	154	304.8	101.6	Central
,,	79	178.	44.45	Central	,,	177	185.	55.	135/50	1500×300	115	304.8	101.6	Central
,,	100	178.	38.09	132/46	,,	183	185.	55.	Central	,,	126	304.8	152.4	Central
,,	101	178.	31.75	132/46	,,	211*	185.	60.32	135/50	1750×300	139	400.	152.4	Central
700×100	77	178.	44.45	132/46	1000×150	167	185.	55.	125/60	,,	191	350.	150.3	Central
,,	92	185.	55.	135/50	,,	174	250.	80.	Central	1750×350	193	400.	125.	Central
,,	95	185.	55.	Central	,,	182	185.	55.	Central					
,,	99	178.	38.89	132/46	,,	187	220.	66.67	Central					
					,,	201	185.	60.32	125/60					

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GERMAN AVIATION FROM WITHIN (August 8 to 12, 1927).

By C. F. Snowden Gamble.

During the first week of August, through the kindness of some friends in German aviation circles, one was allowed to see something of the results of the development that has taken place in aviation during the last two years in Germany.

Through the courtesy of the Directors of the *Deutsche Luft Hansa Artien-Gesellschaft* one was given a complimentary ticket to fly from Croydon to Berlin, and on the Monday morning, arrived at 07.45 hours at Airways House, Charles Street, just off Regent Street (Lower), preparatory to going to Croydon by car. The weather at Croydon was very bad, and after sitting for some twenty minutes in a waiting room, an official asked us to accompany him to a wooden hut so that our passports might be examined.

On leaving the passport examination hut, one was given a sealed paper envelope containing cotton-wool (for plugging the ears) and an attractive pin bearing the badge of *Luft Hansa*. One suggests that the latter is an example that might be followed usefully by other air lines—people like to have little gifts like this—and they are of value from the propagandist standpoint. Incidentally, why do not the Directors of Imperial Airways Ltd., employ someone to design them an attractive badge for general use, similar to that of the Luft Hansa?

From the passport examination hut we had to walk a distance of about fifty yards (still in the rain) to the machine—a three-engined Junkers monoplane, of the type known as G.23.

As soon as we had taken our seats, an official, of the *Deutsche Luft Hansa A.G.*, asked us to clip on our safety belts and saw that they were properly adjusted. The three Junkers engines (type L.11) were then started by the aid of compressed air and a starting magneto. After a short full-throttle run, the pilot taxied out, headed into wind and took off. From the time he opened out till the machine took off was fourteen seconds—she seemed to "balloon" off the ground, and climbed fast into low clouds.

As this was the first "Air-liner" that one had flown in (such previous flights of this nature having been made in converted D.H.9s—more D.H.9 than converted) one was naturally very interested in the cabin.

The seats (nine in number) are comfortable and allow one to stretch the legs; the cabin is upholstered in grey whipcord and each seat is alongside a window which "lets up or down" by a strap. Along the sides of the cabin run pipes for heating, each controlled by a valve from the two front seats.

The door to the pilot's cockpit has a small glass window, through which one can—if one so wishes—watch the pilots at play. Aft, on the port side, is a door leading to a lavatory compartment.

On the starboard side, outside the machine, is a door for freight,—though all our personal luggage was stowed aft on the starboard side—one seat not being occupied.

As the clouds were down to about 300 feet and we were flying at 600 feet—between two layers—the ground could only occasionally be seen.

It was interesting to watch the passengers' faces. Most of them looked frightened (as, judging from their conversation, they had not flown before) and they seemed afraid to move about much. In about half an hour, when they began to realise that movement on their part was not a prelude to instant death, they unbuckled their belts and behaved naturally.

The noise in the cabin, although two windows were half-open, was not too deafening, and one's own experience was that plugging the ears with cotton wool did not help a great deal, and so one removed it—on landing at Berlin one could hear conversation carried out in ordinary tones without any difficulty, but later some "singing" was experienced.

After about half-an-hour the weather cleared, and when over Lympne we circled several times, low down. As the Channel was blocked out by a wall of cloud, some of the passengers began to be nervous. One suggests that it would be of value if the pilot could, through the medium of a voice amplifier, explain to the passengers the reason for such a manœuvre and that there is no cause for alarm. It is to the interest of all air-line operating companies to see that the passengers are not in any way frightened; if they are, they will tell their friends (and it will lose nothing in the telling thereof) with the result that the lines will probably lose potential passengers.

Over Europe.

Half-way across the Channel, the weather cleared, and at Dunkerque the sun came out. Over Ostende, several passengers were air-sick, especially one American. His countrymen may be glad to hear that it was a highly efficient performance; so also were his explanations on landing at Amsterdam.

The sick ones were sick in paper bags (provided for the purpose) and the problem of stowing them after use is one of difficulty. It is an unpleasant subject, but it is rather horrid to be in a confined space with seven others, all of whom are being violently ill. It is suggested that air line operating companies should seek the aid of a really competent medical authority with the object of determining whether or not passengers could be given some preventative or palliative treatment before embarking on a flight.

Sea-sickness and air-sickness, for some unknown reason, have always been subjects for vulgar mirth. Considering the thousands of people who must suffer from them every year, it seems somewhat strange that the only palliatives known are proprietary medicines of—so one gathers—doubtful value. In their own interests, it would pay the companies to investigate the problem, for the particular passengers in this flight were, judging from their remarks, distinctly (shall we say) air-bloody-minded on landing at Amsterdam.

While on this subject, if one may express a personal opinion, it is that the sanitary arrangements on machines need improving. It is suggested that it would pay some manufacturer of sanitary fittings to investigate the problem. Incidentally, why if one lavatory is considered sufficient for the nine passengers of the G.23 is only one provided for the "Argosy" with its twenty-two passengers?

Belgium to Holland.

To revert once more to the flight—a course was flown along the French and Belgian coast at a height of about three hundred feet and roughly two or three hundred yards out to sea. Incidentally, one suggests to the Directors of the *Luft Hansa*, and Junkers, that it would be advisable to fit emergency exits in the roofs of the cabins of these machines. One day ill-luck may befall them and a machine may be forced to alight in the Channel; and, considering the mixture of nationalities one finds amongst the passengers, quite a panic might follow their attempts to escape through the doors and windows.

We then continued on our course over the Dutch Islands



CIVIL AVIATION IN GERMANY.—A general view of the great aerodrome at Tempelhof. The aeroplane sheds are on the left. The offices and wireless masts in the middle. And the restaurant, with roof-garden, and the general buildings on the right.

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to the mainland—passing Rotterdam on our starboard hand—on to Amsterdam, landing at the aerodrome practically on time—12.50 hours.

As soon as we landed the door was opened by an official of the *Koninklijke Luftvaart-Maatschappij*, also by one from the *Deutsche Luft Hansa A.G.*, both of whom could speak English, and both of whom, during our short stay there, found time to show one around the aerodrome.

This is quite good. What a labour it must have been to find one in that country! It is bounded on the north-east side by a canal (Nordseekanal) and on the other three sides by cornfields. It is to the East of the City and about twenty minutes' car ride to the main railway station. It is very well kept and the arrangements for handling passengers appear to be excellent.

There are some sheds used for housing Dutch military machines and one saw two Fokker two-seaters in the air. About two hundred yards away from the aerodrome is a restaurant where one had a very good lunch. There is also a buffet stall in one of the sheds.

In the sheds one saw some Fokker F.VIIs (Jupiters) and one F.VIII, both with Fairey-Reed tractor air-screws. Both look very fine machines and of a kind in which one would like to fly, for, from the passenger's point of view, they look most comfortable

On the aerodrome was a Farman Jabiru, a high wing monoplane with four 180 h.p. Hispano-Suiza engines, plying on the Paris—Amsterdam Service. This machine looks ideal from the visibility standpoint for the passengers, but one wonders (probably quite needlessly) whether the pilot has such a good view as he requires.

To Germany.

Our machine having been filled up with petrol and examined, we took off again (13.35 hours) *en route* for Hannover. One was now the only passenger, the rest of the cabin being filled with crates of—flowers! One pondered on the effect of such a cargo on a nervous or superstitious passenger!

The distance from Amsterdam to Hannover is about 340 kilometres (211 miles) and the machines are timed to fly this in two hours and five minutes. The course lies to the East—skirting the Southern edge of the Zuider Zee and across the North German plain to Hannover. It is a very interesting country—forest and lakes with miles and miles of corn land.

We landed at the Hannover aerodrome on time and were greeted by officials of the *Luft Hansa* and by the police. The latter looked at one's passport and cheerfully said that the visa was not in order and that one would hear more about it at Berlin. They were right—one did!

The aerodrome here (like all German aerodromes) is maintained by the local authorities. It has a good sandy surface and is quite large. There is one shed—a ferro-concrete structure—on one side of which is built a restaurant and executive offices. The aerodrome is to the North of the city and forty minutes' car ride from the main railway station.

In the shed and on the aerodrome were some Junkers machines, the three-engined G.24, and the single-engined monoplane F.13, capable of carrying five passengers and pilot. Also there was a Dornier Merkur III, a high wing monoplane (with a 600 b.h.p. B.M.W. VI engine) capable of carrying the same number of passengers as the F.13, and two Fokker F.IIIs (Siddeley Pumas). This machine can carry six passengers and one pilot.

It was very hot on the ground (one was told that it was, so far, the hottest day of the year) and on the trip to Berlin the temperature in the cabin was 30° C. (86° F.) with all the windows open.

Tempelhof.

A few minutes after the scheduled time (18.00 hours) one arrived over the Tempelhof Aerodrome. Before embarking on an account of one's subsequent adventures, one must pay a tribute to the pilot's skill, the comfort of the machine and the engines. The latter ran like the proverbial clockwork, they never spluttered once. The mean engine revolutions per minute on the trip were about 1,250, with an air speed of 160—170 kilometres per hour (99—105 miles per hour).

On landing, one did not really feel tired—nothing like what one would be after a railway journey of the same length. One did, however, find the glare of the sun on the corrugated planes trying for the eyes, and it is suggested that it might be better if they were painted some neutral colour.

On getting out of the machine, one was immediately surrounded by policemen,—very big ones, big ones and just ordinary ones. It was gathered that they had been informed by telegram from Hannover that one's passport was not as good as it might be. Thereafter, for an hour-and-a-half one perspired—and Oh! so did they—in the aerodrome police station, while they speaking no English and oneself little (very little) German, wrestled with the problem of one's passport. The fact that during all this time they examined it the wrong way up did not really much matter.

Finally they confiscated it and gave one a piece of paper on which they had laboriously written what they *thought* one was (Why does a German policeman put out his tongue while he is writing?) and released one, saying that one must report at the Police Headquarters next morning, when one would hear still more about it. They too were right,—one did! Incidentally, one suggests that the responsible authorities at the Tempelhof should always have an interpreter on duty.

Thereafter, having cleared one's luggage, one drove to an hotel and met an old friend, who shepherded one throughout the trip.

(To be continued.)



CIVIL AVIATION IN GERMANY.—The aeroplane sheds at Tempelhof, with Luft Hansa Junkers, Fokker, and Dornier machines drawn up in review order.


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TOWARDS INDIA.

On Nov. 15, at 13.10 hours, Mr. Macintosh and Mr. Hinkler left Upavon, Wilts, in the Fokker F.VII monoplane, "Princess Xenia" (450 h.p. Bristol Jupiter engine), in an attempt to beat the World's long-distance record, which is at present held by Messrs. Chamberlin and Levine with their flight from New York to Eisleben, Germany. The machine is the same one that was used by Mr. Macintosh and Commandant Fitzmaurice in their attempt to fly across the Atlantic late this year.

The machine, carrying 800 gallons of petrol, weighing 6,400 lbs., took off after a run of half a mile in a fresh westerly wind and was escorted by six Hawker Woodcocks from one of the fighter squadrons stationed at Upavon.

They propose to make their first landing in India.

A FAREWELL PARTY.

On Nov. 15, a farewell lunch was given to Sir Alan and Lady Cobham at the Savoy. By the time these notes appear they will, weather permitting, be on their way to Africa.

Sir Sefton Brancker, in the chair, read a letter from Mr. Royce regretting his absence, and then proposed the healths of the adventurous couple. He remarked that Sir Alan always planned these trips to escape the English winter, and said that in Central Africa costumes were not a matter of importance. He recounted the high qualities of Sir Alan as a pilot and business organiser.

A special point of interest was the fact that, because Sir Alan was the pilot, underwriters at Lloyd's, who had never taken aircraft risks, were ready to insure the Short Singapore. The rate was about the same as that of sailing ships for Australia in the past.

Sir Sefton referred to Sir Charles Wakefield, the chief backer of this flight, as the Patron Saint of British Aviation. He said that the flying-boat would be a big factor in Imperial communications. To show his freedom from prejudice Sir Alan was now using a flying-boat with two engines, though all his previous big flights had been done on one make of machine and engine

This flight would be highly educational, unlike Atlantic flights, which because of their short duration taught us little. This was an endeavour to get the support of the Colonies.

Sir Alan Cobham, replying, said he would rather have had the party after a successful return. The preparations had been strenuous. The Air Ministry had helped him splendidly. Sir Samuel Hoare had arranged to lend him the machine and Sir John Higgins had done everything possible to expedite its preparation. Sir Sefton Brancker's department had carried on a correspondence course with all Africa to prepare the route. The Directorate of Civil Aviation was unlike any other Government Department.

He was fortunate in co-operating with Mr. Oswald Short, the pioneer of all-metal aircraft. He hoped the boat would touch nothing but air and water till it came home again. He knew he had the best boat and the best engines and plenty of room.

This was a utility flight and not spectacular. Air lines, such as they would survey, would pay in developing the country they served, not as air transport propositions. He hoped in this way to return the support he had received.

He remarked that he had promised to take his wife on one of his long journeys, but hitherto he had not had a big enough machine.—Lady Cobham, excellent sportsman that she is, was more amused than anybody at this example of things that might have been expressed differently. And incidentally, everybody admires intensely the calm and humorous spirit in which she is setting about this great adventure.

Continuing, Sir Alan said that Africa is a vast field waiting to be developed, and that the country which gets there with its air lines is going to keep the commercial control.

He said that when he went to Sir Charles Wakefield with his proposition, Sir Charles asked, "Is it safe?" and "What good will it do?" and when he heard the arguments he said, "Well, Go ahead!" He got the same questions and answers from Mr. Short and from the Rolls-Royce firm. He felt the responsibility he was taking, and was determined to deliver the goods

This flight is, in many ways, the most prospectively useful that Sir Alan has undertaken. His views are perfectly sound, as usual. And everyone will wish him and his gallant wife a happy and successful journey, and a safe return. They carry with them the best wishes of everybody concerned with British Aviation and the commercial development of the British Empire.—C. G. G.

THE GLOSTER GUAN.

The Gloster Guan is a high-performance single-seat fighter fitted with a 470 h.p. super-charged Napier Lion engine. It follows the general outline of the earlier Gloster single-seaters and, except for the modifications to the nose to accommodate the exhaust-driven super-charger impeller, it is almost exactly similar to the Gorcock.

The fuselage is of steel-tube construction, of a patented Gloster design, and is covered forward with aluminium cowling and aft with fabric stretched over formers.

The wings are of the special Gloster high-lift biplane type and are built up of two spruce spars and the conventional ribs, and are braced internally with tie-rods. There is one set of interplane struts on either side of the fuselage.

The engine, as already stated, is a super-charged Napier Lion which maintains its normal horse-power of 470 at 2,000 r.p.m. up to 15,000 feet. The radiator, of the long-tube type, is slung under the fuselage and is provided with shutters. A small header-tank with a capacity for 1¾ gallons is mounted over the engine.

Two petrol tanks, having a total capacity of 62 gallons, are mounted in the top wing, one on either side of the centre section. Petrol feed is entirely by gravity to a centraliser fitted with non-return valves.

The oil tank is fitted on top of the fuselage behind the engine and has a capacity of 5¾ gallons.

The undercarriage and tail unit are of the standard Gloster pattern and call for no further description. It is interesting to note that the under-carriage is able to withstand a vertical velocity of 10 ft. per second, and at this velocity the load on the under-carriage will not exceed three times the total weight of the machine.

Armament consists of two Vickers guns lying in troughs along the side of the fuselage and firing through the air-screw. 1,200 rounds of ammunition is provided for.

Specification.

Span, top plane 31 ft. 10 ins. (9.7 m.)	Power loading 7.55 lbs./h.p. (3.4 kgs./h.p.)
Span, bottom plane 27 ft. 6 ins. (8.38 m.)	Speed, at ground level 148 m.p.h. (236.8 km.p.h.)
Wing area 298 sq. ft. (27.71 sq. m.)	Speed, at 15,000 ft. (4,575 m.) 175 m.p.h. (280 km.p.h.)
Weight empty 3,131 lbs. (1,421.47 kgs.)	Speed, landing 59 m.p.h. (94.4 km.p.h.)
Military load 421 lbs. (191.13 kgs.)	Climb to 20,000 ft. (6,100 m.) 18 mins.
Weight loaded 3,552 lbs. (1,612.6 kgs.)	Ceiling, service 31,000 ft. (9,455 m.)
Wing loading 11.9 lbs./sq. ft. (58.06 kgs./sq. m.)	Ceiling, absolute 33,000 ft. (10,065 m.)



THE GLOSTER GUAN.—A high performance single-seat fighter with the 470 h.p. supercharged Napier Lion engine.

The "Bristol"

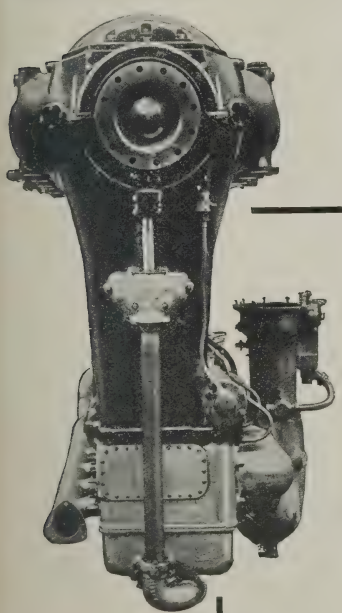
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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, W. 1.]

Report for week ending Nov. 13.

Flying Time 20 hr. 5 min. *Instruction* 7 hr. 55 min. *Soloists* 10 hr. 35 min. *Passengers* 1 hr. 35 min. *Instruction.—With Mr. F. G. M. Sparks*—R. Andrews, G. H. Craig, A. Fowler, A. J. Richardson, Rich Hayes, E. L. O. Baddeley, H. B. Michelmore, Miss Fletcher, F. A. I. Muntz, Dr. Cook. *With Mr. S. L. F. St. Barbe*—Rich Hayes, R. E. Edkins, G. E. Clair, E. A Lingard, L. Rowson, Mrs. Cook. *Soloists.*—W. Roche-Kelly, D. P. H. Esler, A. J. Richardson, E. C. T. Edwards, P. W. Hoare, G. W. Hall, J. J. Hofer, R. Sanders-Clark, A. F. Wallace, E. L. O. Baddeley, C. E. Murrell, G. C. Bonner, H. B. Michelmore, A. R. Ogston, E. E. Stammers, Capt. Burt, Will Hay, F. A. I. Muntz, H. Solomon, M. L. Bramson. *Passengers.—With Mr. F. G. M. Sparks*—E. D. Mumford, B. Carey, Miss Gaskell. *With A. F. Wallace*—Dr. R. M. Windeyer. *With E. E. Stammers*—H. B. Michelmore. *With W. Hay*—R. Sanders-Clark.

On Sunday, 13th, P. W. Hoare successfully passed the tests for his Certificate and "A" Licence.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for fortnight ending Nov. 12.

Flying Time 30 hr. 35 min. *Instruction* 10 hr. 40 min. *Soloists* 13 hr. 5 min. *Passengers* 4 hr. *Tests* 2 hr. 5 min. *Instruction.—With Mr. Brown*—Messrs. Gort, Allott, Agar, Rowley, Ruddy, Anderson, Hall, Browning, Heath, Gerrard, Slack, Barlow, Michelson, Ellis, Miss Brown, Miss Eaerlein. *With Mr. Cantrill*—Messrs. Nelson, Caldecott, Williams, Gort, Browning, Fallon, Davidson. *With Mr. Scholes*—Messrs. Rowley and Riley. *Soloists (under instruction).*—Messrs. Harber, Rowley, Ruddy, Caldecott, Meads, Anderson and Gerrard. *Pilots.*—Messrs. Costa, Goodfellow, Williams, Lacayo, Crosthwaite, Leeming, Twemlow, Ward, Nelson, Michelson, Miss Brown. *Passengers.—With Mr. Cantrill*—Messrs. Preece and Pearson. *With Mr. Costa*—Messrs. Callaghan, Brams and Anderson. *With Mr. Goodfellow*—Mr. Hall. *With Mr. Nelson*—Miss Armstrong. *With Mr. Brown*—Messrs. Reid and Rodman. *With Mr. Twemlow*—Mrs. Twemlow, Mr. Allott. *With Mr. Williams*—Messrs. Woodhead and Allen. *With Mr. Lacayo*—Mr. Caldecott.

Notes.—Really life is very quiet these days and there has not even been a good gale to report, let alone a good crash during the past fortnight. Weather has been wet to foggy, and cold to boggy.

Mr. Meads did his height test last week and Messrs. Ruddy and Gerrard did their first solo flights, all without damage to personnel or material. Mr. Twemlow has the distinction of being our first "A" Licence pilot to complete 20 hours' flying since the new Air Ministry agreement came into force and has thus earned his full subsidy for the Club, in reward for which his future flying will cost him an extra 10s. an hour. Other "A" Licence pilots are being more cautious and our Scotch member, who had worked out that he could do 4 min. 30 sec. a day throughout the year is very peeved because he'd have to pay for 5 min. each time.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Nov. 13.

Flying Time 24 hr. 10 min. *Instruction* 7 hr. 15 min. *Soloists* 7 hr. 55 min. *"A" Pilots* 6 hr. 55 min. *Tests* 1 hr. *Passengers* 1 hr. 5 min. *Instruction.—With Mr. J. D. Parkinson*—Miss Leathart, Miss Rambaut, Messrs. V. Heaton, J. D. Irving, Dr. Alderson, Messrs. Hayton, Robertson, Glenny, De Pledge, Griffiths. *Soloists.*—Messrs. Glenny, De Pledge, Robertson, Shaw, Wilson, Turnbull, Irving, Mrs. Heslop. *Passengers.—With Miss Leathart*—Mr. Tomkins. *With Mr. C. Thompson*—Mrs. Heslop. *With Mr. H. Ellis*—Mr. Fairless, Mr. A. Bell. *With Mr. R. N. Thompson*—Mr. Griffiths, Mr. Lawson. *With Mr. Parkinson*—Mr. Oakes. *With Mr. A. Bell*—Mr. Robertson. *With Dr. Dixon*—Miss Dixon.

Mr. J. E. Glenny did the tests for his Aviator's Certificate on Sunday, putting up an exceedingly good show in both tests.

The Club's Annual Dance will take place on Friday, the 19th, and the interest taken in it gives confidence that it will be as great a success, social and financial, as on previous occasions.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Nov. 12.

Flying Time 21 hr. 5 min. *Instruction* 14 hr. 15 min. *Soloists* 4 hr. 20 min. *Passengers* 2 hr. 30 min. *Instruction.—With Mr. Beck*—Miss Woodhead, Miss Watson, Messrs. Ramsden, Bell, Brown, H. Crowther, Ward, Humphries, Ellis, Evans, Pierce, Jackson, Clayton, Batcock. *Solo Instruction.*—Messrs. Brown, H. Crowther, Atcherley, Ellison, Lister. *"A" Pilots.*—Messrs. Thomson, Wilson, Wood, Dawson, Mann, Paget. *Passengers.—With Mr. Beck*—Miss Connatty, Mr. Wood. *With Mr. Thomson*—Mr. Clark. *With Capt. Paget*—Messrs. Brackenbury, Thomson, Coles. *With Mr. Wood*—Mr. Ellison, Miss Hardwick.

This has been a grand week, for not only have the flying hours been increased, but we have also added Messrs. Brown and Crowther to the solo list. Unfortunately, bad weather prevented two other pupils from joining the "élite."

Sir Sefton Brancker arrived on Thursday with Mr. Louis Paget in a Widgeon, and left on Saturday morning. The machine excited great interest and much favourable comment amongst the members.

Flg. Off. Atcherley arrived in Lady Heath's SE.5 to spend the week-end with his family, and landed in the ditch, but without damage. This exhibition is quite in keeping with the landing display which was being given that afternoon.

One of our members gave a practical demonstration of stopping an airscrew with one hand. He hopes to fly again shortly.

The Hampshire Aeroplane Club.

[Sec: Major R. Ross White, Hamble, Southampton.]

Report for week ending Nov. 13.

Flying Time 15 hr. 15 min. *Instruction* 5 hr. 40 min. *Soloists—Licensed Pilots* 3 hr. 25 min.; *Unlicensed Pilots* 4 hr. 45 min. *Passengers with Flt. Lt. Thomson* 25 min *Tests* 1 hr. *Instruction.*—Mr. Hall, Capt. Kirby, Mr. Williamson, Miss Home, Lt. Heinemann, Lt. Mandeville, Mr. Dickson, Mr. Wylde, Mr. Boileau. *Soloists, Licensed.*—Flg. Off. Southey, Mr. Murray, Flt. Lt. Boothman, Mr. Fagan, Mr. Yeatman, Mr. Bowen. *Soloists, Unlicensed.*—Mr. Cripps, Mr. Fawkes, Mr. Stanford, Lt. Graham, Mr. Nicholson, Miss Home, Lt. Heinemann, Mr. Parker. *Passengers.—With Flt. Lt. Thomson*—Major Duff, Mr. Sarel, Mr. Bailey. *With Mr. Murray*—Dr. Murray, Miss Sheridan. *With Flt. Lt. Boothman*—Mr. Gibbs, Mr. Puttock, Mr. Dallmeyer, Mrs. Waterman. *With Mr. Yeatman*—Miss Fletcher. *With Mr. Bowen*—Mr. Collins, Mrs. Gibbs, Mr. Lovat.

Flt. Lt. J. N. Boothman, who helped us in the first week of our flying existence, is now home on leave from 'Iraq, and he kindly assisted on Sunday by giving instruction to several pupils.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Nov. 13.

Flying Time 8 hr. 20 min. *Instruction.—With Mr. G. F. Lines*—Messrs. N. Lindely, R. Harmer, G. F. Surtees, R. F. Potter, H. Meager, H. Mack, I. Morse, C. Gowing. *Soloists.*—Messrs. W. P. Cubit, R. Harmer, W. A. Ramsay, H. Pank, C. Gowing, F. Gough. *Passenger.*—Mrs. F. Gough.

Notes.—Sir Sefton Brancker paid us a visit on Thursday last. We had been previously advised of his coming, but the morning turned out so hopelessly bad that we felt sure he would not arrive. However, we had a strong muster of Committeemen to meet him, and we were all extremely pleased when we saw, within a few minutes of the appointed time, a Westland Widgeon right over us.

A very interesting discussion took place and one gathers from Sir Sefton's remarks that Norwich in a few years will be a very prominent aviation centre. This, of course, augurs well for the N. and N. Club and one would suggest to other clubs that they begin soon to fly in this direction, then in future years they will be able to say, "We knew them when they were only so and so."

Sir Sefton left in terrible weather—snow was falling and clouds were looking frightfully bad and low. This visit has done us a tremendous amount of good; the local Press gave the matter much publicity and incidentally caused many fresh faces to come up to the 'drome and see for themselves what we are doing.

C. G. went solo this week; started practising landings and over it went. New prop. Bad luck. Would have disgraced members of less prominent clubs.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Nov. 13.

Flying Time 6 hr. 50 min. *Instruction.—With Mr. Lowdell*—Miss D. Creasy, Dr. Sleight, N. Creasy, S. Schofield, R. Brown, T. Marriage, K. Peck, H. Billington. *Soloists.*—S. Schofield, N. Creasy, C. N. Prentice. *Passengers.—With Mr. Lowdell*—Miss Capel, Mr. Gosling, Miss Hanson, Miss Prentice. *With Mr. C. N. Prentice*—Miss Simpson, Miss Fison, Miss King, Mr. Clifton.

Notes.—Our President, The Hon. Lady Bailey, paid us her usual Sunday visit and gave joy-rides to several of the members. Great excitement prevailed at the aerodrome on Saturday when it was officially announced that the Suffolk Club was to be included in the new Subsidy Scheme. So far we have had a very struggling existence and we can now look forward to a brighter future. We hope soon to secure a second machine and turn out "A" Licensed Pilots in mass production.

The Bristol and Wessex Aeroplane Club Ltd.

[Sec.: Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Nov. 5.

Flying Time 17 hr. 25 min. *Instruction* 10 hr. 5 min. *Soloists* 6 hr. 50 min. *Passengers* 25 min. *Instruction.—With Mr. E. B. W. Bartlett*—M. L. Alexander, A. E. Arnold, C. H. Brewer, T. H. Clarke, C. S. Clarke, G. Moon, J. H. Roberts, H. A. Tiarks. *Soloists under Instruction.*—The Hon. H. C. H. Bathurst, A. H. Downes-Shaw, C. S. Clarke, R. A. Hall, S. K. Jopp, J. E. Tratman. *Passengers.—With Mr. Bartlett*—Miss Wagg. *With Mr. Hopper*—Mr. C. Macormick.

Instruction was not possible during three days last week.

The Kent and Sussex Aero Club.

[Sec.: B. D. Winser, 12, Lyndhurst Gardens, Tunbridge Wells.]

The Club, which was originally formed as the Tunbridge Wells Light Aeroplane Club, has now changed its name to the Kent and Sussex Aero Club. Mr. B. D. Winser, the Secretary, states that the Department of Civil Aviation has promised the Club a share of the Government subsidy, as and when it gets to work. Support is now forthcoming for the Club from Maidstone, and a number of people at Eastbourne have expressed their intention of helping to develop the Club's activities in that direction, and to arrange flying meetings and suitable landing grounds which the Club machines could visit two or three days a week to maintain the interest of members and prospective members in that area.

An appeal is being issued for £1,000 in £1 shares with which to capitalise the Club at the start. Mr. Winser states that the following gentlemen, most of whom are influential land-owners in the parts of Kent and Sussex near Tunbridge Wells, are backing his appeal:—Lord Hardinge of Penshurst; Lord de l'Isle and Dudley; Sir Charles Wakefield; Sir Bourchier Wrey; Sir Frederick van den Meulin; Sir Robert Gower; and Sir Daniel Watson.

The Tee-side Light Aero Club.

[Sec.: M. Moss, 168, Linthorpe Road, Middlesbrough.]

A preliminary meeting was held on Nov. 9 at the Empire Hotel, Middlesbrough, when the following officers were appointed:—

President—Dr. Boddy. Vice-President—Mr. Norman Sadler.

Joint Secs.—Flg. Off. J. N. Ogilvie and Mr. Harry W. Moss.

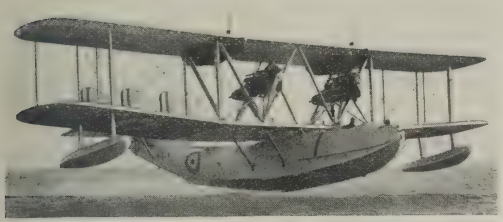
Committee—Messrs. G. Shaw, Bishop (R.A.F.), F. Harrison, Davison, Black (ex-pilot), G. Dixon, S. Robertson, Chas. W. Lofthouse (ex-pilot), J. Fowler, F. Hird, and C. W. Ridley.

Resolutions were passed as follows:—Pilot members to pay 63s. per year, observer-members 42s., and associate-members 21s. The Club to be open for British subjects only. The cost of flying 21s. per hour, minimum time 15 minutes.

Other details, such as getting the necessary funds, choosing suitable grounds and aeroplanes, etc., will be fully gone into in Committee. Mr. Hayes, of Sedgefield, an ex-pilot, has offered his services free to the future club for the first year. Our present list of members, including Mr. Ogilvie's party, are now about 120 strong. We think it advisable to try and get if possible 300 members for a beginning.

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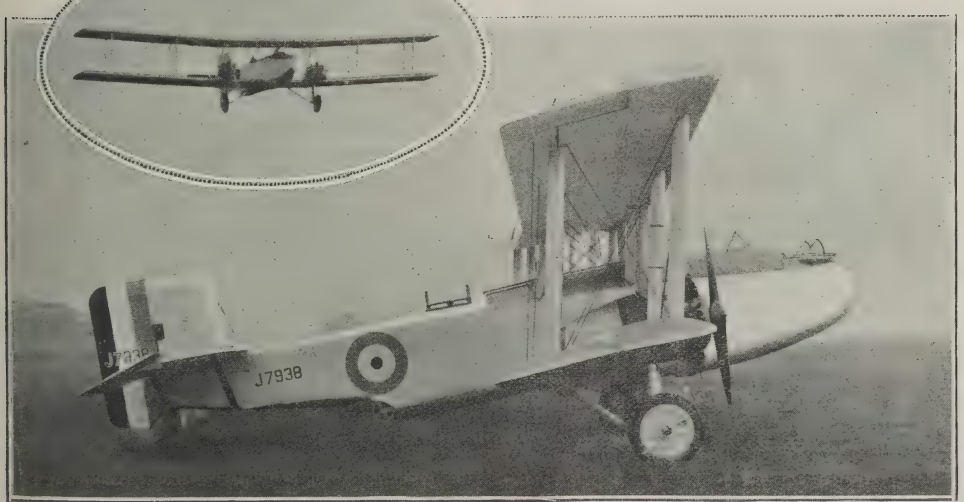
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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 19; Tuesday, 4; Wednesday, 17; Thursday, 20; Friday, 18; Saturday, 13; Sunday, 3.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 35, passengers 193, freight 10 tons.

AIR UNION:
Paris—London: Machines 27, passengers 96, freight 14 tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 10, passengers 30, freight 14 tons.

SABENA:
Brussels—London: Machines 10, passengers 5.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 10, passengers 18.

PRIVATE:
Machines 2, passengers 2.

Total number of trips by British Machines, 37, carrying 195 passengers. Foreign Machines, 57, carrying 149 passengers.

Note.—In addition, two incoming machines, one British and one French, carrying 6 passengers, were unable to reach Croydon owing to fog and landed at Lympne, thereafter returning to Paris.

COMPARATIVE FIGURES.

Week ending Nov. 13:
Machines, 94; Passengers, 344; Crews, 167; Total personnel, 511.
Corresponding week, 1926:
Machines, 74; Passengers, 156; Crews, 86; Total personnel, 242.
Corresponding week, 1925:
Machines, 62; Passengers, 157; Crews, 75; Total personnel, 232.
Corresponding week, 1924:
Machines, 40, Passengers, 153; Crews, 52; Total personnel, 205.
Corresponding week, 1923:
Machines, 80; Passengers, 157; Crews, 129; Total personnel, 286.
Corresponding week, 1922:
Machines, 22; Passengers, 55; Crews, 48; Total personnel, 103.
Corresponding week, 1921:
Machines, 63, Passengers, 121; Crews, 92; Total personnel, 213.
Corresponding week, 1920:
Machines, 51; Passengers, 86; Crews, 64; Total personnel, 150.

Croydon Notes.

Imperial Airways' new second-class early morning service has so far proved exceedingly popular with travellers to Paris. On several occasions there have been too many seats booked by this service to allow the use of the W8Bs. with the cut-down passenger capacity which were to have been put on for the second-class service.

The unexpected popularity of this new cheap rate has led some observers to express astonishment that so many of those who can afford to travel by air at all will face the discomfort of rising so very early in the morning for the sake of saving £1 on their fare.

Probably this saving has very little to do with the matter. Much more important is the fact that the early morning service offers something worth having to those whose time is of value to them. Travelling by the noon "Silver Wings" service means leaving London at 11 a.m. and arriving in Paris at 3.45 p.m., which fairly completely writes off the whole day for business purposes.

The morning service, given reasonable weather, gets the traveller into Paris well before lunch, and gives him an unbroken afternoon for his business or pleasure. The nearest that the rail and boat service can offer is a night journey, which usually means far more acute discomfort than is caused by rising at screech of dawn, and often leaves the traveller on arrival in no condition for serious business on the following morning.

Records of the performances of the Wright Whirlwind engines in civil aircraft in America are accepted at Croydon by those most familiar with the habits of aircraft engines as evidence that the Whirlwind is an engine of extreme reliability and economy. But there is a feeling that it is time a little was said on behalf of British engines, particularly those of the air-cooled type.

In this connection one should remember that the Wright engine is of 200 h.p. and that the only British radials that have been used for serious and regular commercial work over here are of about twice that power. As the size of a radial engine goes up, so also do the difficulties of making it reliable increase. This is particularly the case with the big-end assembly of this type of engine.

So far there is no conclusive evidence that the American engine designer has yet produced a 400 h.p. radial engine as reliable as the Wright Whirlwind.

But English engines of such power do live up to the performances claimed for the Whirlwind, despite their much greater power. Imperial Airways do not make a habit of running either Jaguars or Jupiters for 300 or more hours between overhauls, but their engineering staff have no doubt that these engines could be run for similar periods without damage or danger.

Fuel consumption per nominal h.p. hour on British air-cooled radials are perhaps slightly higher than those credited to the Whirlwind, but comparisons on this basis may be very misleading. Engines on one service may cruise at three-quarter full power, on another at two-thirds full power, and even if the engines are equally economical their apparent consumptions will appear very different.

In the matter of oil consumption there is less room for doubt as to the value of hourly rates of consumption, and here at least one British engine can claim to equal the Whirlwind. Jaguar engines on Imperial Airways are running with an over-all oil consumption of $5\frac{1}{2}$ pints per hour, which is less than twice the average consumption claimed for the Whirlwind, with half the power, in regular service.

Real Winter has set in on the Continental routes. During the last week most of Northern France has been under snow, and pilots report that they have run into some of the worst snowstorms within their memory. Probably the worst day in this respect was Friday, when there was added to cold and snow a Northerly wind, which made the Paris-London machines take an hour longer than usual on the journey.—W. H. S.

LIVERPOOL AS AN AIR TERMINAL.

Since the holding of the Liverpool Air Pageant, organised jointly by the committee responsible for Liverpool's Civic Week and the Lancashire Aero Club, at the end of September, local interest in the project for providing Liverpool with a properly equipped aerodrome, and the coupling of that city to the existing Continental Air Services, has been successfully kept alive.

Air Ministry officials who have inspected the sites provisionally suggested as suitable for aerodromes are said to consider that several of them would be satisfactory, and that one in particular is nearly ideal. Negotiations for securing this site are in progress by a local organisation.

It is said that Imperial Airways have expressed readiness to run an experimental service connecting Liverpool with Croydon and the cross-Channel Air Services, and that Luft-Hansa would be ready to run a service direct from Germany to Liverpool to connect up with the Trans-Atlantic steamship arrivals and departures.

Conjointly with this scheme for making Liverpool an important air traffic centre, a movement to start a Liverpool Flying Club has been set in motion. Quite a number of Liverpudlians have already undertaken to join the Club on its formation, and two offers have been received, one from Sir Charles Nall-Cain, the other from the Blackburn Aeroplane and Motor Co., to present the Club with a light aeroplane.

The promotors of these two schemes expect to be able to raise from the citizens of Liverpool subscriptions to the amount of £10,000, to cover the cost of acquiring an aerodrome site and meeting the initial cost of founding the Liverpool Club.

COMMERCIAL PROSPECTS IN THE UNITED STATES.

Mr. C. H. Biddlecombe, who after making for himself a reputation as an authority on practical air navigation in this country went to the United States to join the staff of Colonial Air Transport (operators of the Boston—New York mail route), nearly two years ago, has expressed some of his opinions on the future of commercial flying in Northern America in a letter recently sent to the Editor of THE AEROPLANE.

In his opinion North America presents the World's best field for commercial air transport, and the general conditions there are such that commercial flying will grow very quickly and eventually become one of the most important industries of America—in both amount of capital invested and actual turnover.

The enthusiasm and optimism of the American people over air transport is in marked contrast to the lack of interest shown in this country when Mr. Biddlecombe left for America.

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"The Spinning of Aeroplanes"
Bryant and Gates,
Aeronautical Research Committee.
Reports and Memoranda No. 1,001, p. 103.

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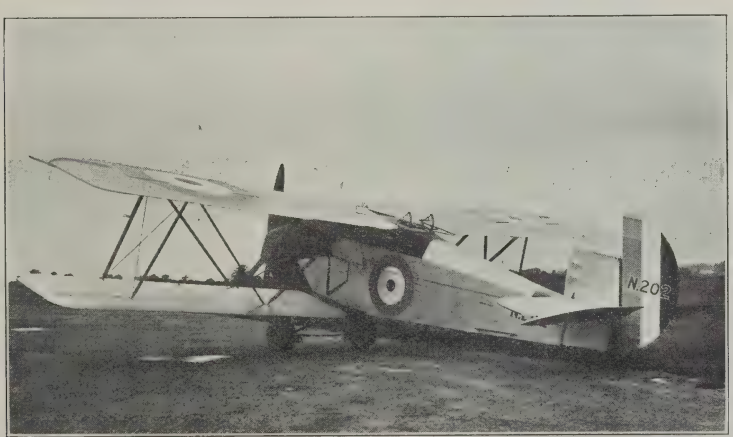
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There are already more firms building aeroplanes in the United States than there are manufacturers of motor-cars, and the number of such firms is increasing at a rapid rate. There is every likelihood that a number of the new aircraft manufacturing and operating concerns will get into financial difficulties as a result of mistakes in policy, bad financial management, over-optimism and so forth, just as many of the early railroad companies failed from similar reasons, and that ultimately a small number of large concerns will replace the present large number of small firms.

But conditions are such that aircraft can be operated at a profit all over the States. All that is necessary is the selection of the right aircraft and the choice of the right methods of operation.

It is generally believed that the United States Government do not in any way subsidise even the mail-carrying services in their territory. In a sense this is true for the Post Office merely pays the individual mail carriers at a contract rate per lb. of mail carried over their particular route. Mr. Biddlecombe points out that the amount paid by the Post Office to the Air-mail companies is in many cases very much greater than the postage paid by the public for that mail.

For instance, the postage rate by Air-mail from Boston to Los Angeles is 10 cents per half ounce, or $3.20 per lb. The Post Office pays to the four air mail companies who serve this route a total of $8.74 per lb. of mail so carried, and in addition the Post Office pays for collection and delivery.

It must be remembered that all Air-mail pays the 10 cents per half ounce postage, and that letters carried over less than the whole route bring in a smaller revenue to the air mail companies. But as the value of the air mail services is a maximum over the longest distances, the bulk of the Air-mail does pay the mail-carrying firms a larger sum than the Post Office receives for it from the Public.

There is therefore a " sort of subsidy " and the Air-mail services in the United States are in fact supported from the public funds. There can be no question that this method of assisting in the development of air transport, by payment for useful work done, is a sounder and more efficient one than any of the methods of subsidisation which have been tried in this or any other European country, and it is leading to a healthier type of development than is to be found in Europe.

ADVENTURERS TO SPARE.

The paragraph which appeared in The Aeroplane recently asking for an Engineer-Adventurer for a British aircraft expedition abroad has brought such a number of replies that if such a thing were possible in these days one could man a whole aeronautical freebooting or filibustering expedition with the applicants.

The one vacancy has been satisfactorily filled. But this office now has a list of qualified aircraft mechanics ready to go anywhere and do anything which, one hopes, will be of value to anybody abroad who wants thoroughly competent mechanics at the back-of-beyond.

Outside their ability as fitters and riggers, which are common to all, some qualifications set forth include being a good plain cook; a first-class gymnast; a star turn swimmer; a keen athlete; and various other gifts which would be assets to any company of gentlemen adventurers.

A SECRET LET OUT.

Something of a stir was caused in the neighbourhood of Stag Lane last week by the appearance (and subsequent disappearance) of a de Havilland Hound as a single fighter. Its speed and manœuvrability amazed all who saw it. Its destructiveness was alsatiable.

It is understood that a famous American designer had a hand in its earlier stages. For the moment the whole affair is wropt in the utmost secrecy. One gathers that its owner has in consequence of its performance fled the country.

As usual, it was let out by a woman.—G. D.

PERSONAL NOTICES.

Birth.

SHAYLOR.—On Nov. 7, at Streatham Manor, to Vivienne, wife of W. F. Shaylor, Flg. Off., R.A.F.O.—a daughter.

Death.

MACKENZIE-RICHARDS.—On Nov. 9, at East Grinstead, as the result of a flying accident, Campbell Mackenzie-Richards, Flg. Off., R.A.F.

Mr. Mackenzie-Richards joined the R.A.F. in July, 1923, with a short-service commission. After a twelve months' course of flying instruction at No. 2 F.T.S. he was posted to No. 15 (Bombing) Squadron, Martlesham Heath. In May, 1926, he was appointed to the Experimental Section, R.A.E., Farnborough.

Forthcoming Marriage.

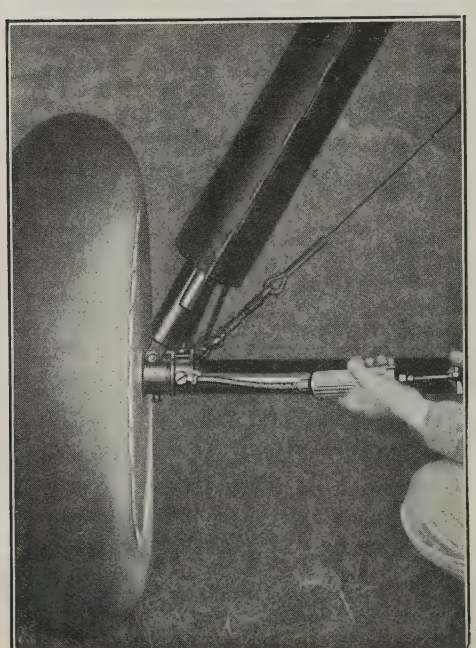
CHAMBERS—SUTTON.—The engagement is announced between Charles F. M. Chambers, D.S.C., late R.N.A.S., elder son of the late Capt. Chambers and Mrs. Chambers, of Rolvenden, Kent., and Miss Mary Barbara Sutton, elder daughter of Mr. W. Lincolne Sutton, F.I.C., of Eaton, Norwich.

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THE AEROPLANE
INCORPORATING AERONAUTICAL ENGINEERING
Edited by C. G. Grey

Vol. XXXIII. No. 21. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"OUTFLY THE NIMBLE SAIL, AND LEAVE THE LAGGING WIND."
(POPE—Odyssey.)

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A GOOD START:—A Fairchild monoplane (Wright Whirlwind engine) belonging to the Fairchild Aerial Surveys Co. of Canada, Ltd. Machines of this type are being used on the recently inaugurated air mail service from Father Point to Quebec and Montreal in connection with the incoming and outgoing Canadian mail steamers.

Schneider Cup won, using— K·L·G SPARKING PLUGS

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Mrs. Eliott-Lynn, flying her "Avian" on July 19, covered 1,300 miles with 79 landings in one day between dawn and dark. The "Avian" landed at every usable aerodrome in England as well as on 20 fields.

Longest Light 'Plane non-stop Flight.

Mr. Bert Hinkler, flying his "Cirrus Avian" on August 27, accomplished a record non-stop flight of 1,200 miles, from Croydon to Riga, in 10¾ hours. Average speed was over 100 m.p.h. and petrol consumption was 30 m.p.g.

Altitude Climb.

At the Copenhagen Flying Meeting, September 4, an "Avian" piloted by Mr. Dudley Watt, won the 45 minutes climb, in the low-powered class, with an altitude of 14,500 ft.

Speed.

In the Low-Powered Handicap at the Nottingham Flying Meeting, on August 1st, an "Avian" obtained first place with a speed of 105 m.p.h.

Competitions.

At the Easter Bournemouth Meeting an "Avian" obtained 3 "Firsts" and one "Second," and at the Whitsuntide Meeting, 3 "Firsts," 3 "Seconds" and 2 "Thirds."

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THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 21.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
Telephone: Holborn 0426.
Subscription Rates, post free: Home 3 months, 7s. 6d.; 6 months. 15s.; 12 months. 30s.
Abroad, 3 months, 8s. 9d.; 6 months. 17s. 6d.; 12 months. 35s. Canada. 1 Year, 8$.
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ON EDUCATING THE EXPERTS.

On Friday last, November 18, Sir Samuel Hoare, Secretary of State for Air, accompanied by the Lady Maud Hoare, and Sir Philip Sassoon, Under-Secretary of State for Air, and Wing Cmdr. Louis Greig and Mr. C. Llewellyn Bullock, Principal Private Secretary to the Secretary of State, visited the Handley Page Aerodrome at Cricklewood to see a demonstration of the Handley Page slotted wing.

Mr. H. E. Wimperis, Director of Scientific Research, under Sir John Higgins, was also present, as was Flt. Lt. Webster, the winner of the Schneider Trophy, who had dropped in from Martlesham on the infinitely secret Harrow.

Affairs of State delayed the arrival of the official party until after 15.00 hours, and by then the weather was such that only two flights could be made before fog and the failing light made flying impossible. The rumour, started by one of the waiting journalists, that Sir Samuel was not coming, because just as he was about to leave the Air Ministry somebody explained to him exactly what a stall is, proved to be a graceless invention.

The first passenger was Sir Samuel himself and the second was the Lady Maud. They deserve full credit for their courage in thus personally learning for themselves the benefit of the slot control. Very seldom does a high official of the State risk his valuable person in experimenting with technical developments which come under his department. And still less often does such an official allow his lady wife to partake in such risks. Lady Maud deserves particular thanks for thus satisfying her insatiable curiosity about air affairs, for her position is such that no other woman's example could be so effective.

When one writes of the risks of experimenting in this way, one does not for a moment imply that one has lost faith in the Handley Page slot. In fact, watching the machine this time merely increased very much one's confidence in the slot control. But, after all, the fittings of the slots and their methods of operation are still more or less experimental, and anything experimental always has a little more chance of going wrong than it has when it has been thoroughly tested and made into a production job.

The Demonstration.

Sq. Ldr. Tom England, late R.A.F., who was flying the machine, certainly gave Sir Samuel every opportunity of judging the extraordinary controllability given by the slots. Being one of our best and most experienced pilots, he left nothing undone which could show their uses.

One does not imagine that any aviator who has piloted Sir Samuel in the past has intentionally stalled and spun his machine. And the fact that Sir Samuel has survived his many experiences in the air is sufficient proof that he has never been stalled and spun unintentionally. But he has had quite enough experience of flying in two-seaters during his journeys over the North-west Frontier of India and all over Iraq to know perfectly well what an aeroplane feels like under any normal circumstances.

Consequently when Sq. Ldr. England sat the machine on its tail and wagged it from side to side with the rudder, his distinguished passenger was well able to judge the abnormal activities of the aeroplane. Sir Samuel said when he came down that this peculiar action of the machine certainly gave him sensations which he had never had before. Fortunately he is not subject to *mal de l'air*. And Lady Maud, whose experiences in the air are quite considerable, though not perhaps so extensive as her husband's, was equally impressed by the extraordinary way in which the machine was controlled in strange attitudes, and she was evidently very pleased with her experience.

From the ground one could only see that the machine was apparently hanging on sky-hooks and descending very fast vertically, except when an unusually strong gust took it and pushed it solemnly backwards. But obviously it was under perfect control the whole time.

Efficient Simplicity.

This controllability was the more noteworthy because the slots were not in any way connected with the ailerons. In the further development of this control the ailerons may be connected with the slots in such a way that when an aileron is raised it will pull in and close the slot on that wing tip. The outward action of the slots will be purely automatic. But pulling in the slot on the raised wing-tip and so killing the lift on that side will certainly give quicker control.

Nevertheless, even with both slots open all the time, and with the control depending entirely on ordinary ailerons, the pilot can do anything he likes with the machine. Consequently, any ordinary aeroplane fitted with the automatic slots and without any alterations in the controls at all, will be absolutely safe against the dreaded stall and spin. And



EDUCATING AN EXPERT.—Sq. Ldr. England discussing the Slot, just after a test flight, with Air Vice-Marshal Sir Sefton Brancker.



HOW IT WORKS.—Sir Samuel and the Lady Maud Hoare, and Wing Cdr. Louis Greig, watching Sq. Ldr. England demonstrating the working of the Slot, with the umbrella of the anxious Mr. Handley Page (in semi-eclipse behind him).

as the slots are only open when on the verge of stalling they do not affect the efficiency of the aeroplane at all.

The utter simplicity of the Handley Page method is a wonderful contrast with the possibly highly scientific but obviously unpractical R.A.E. method, which a number of readers of this paper have probably seen on a Bristol Fighter modified by that expensive establishment.

INEFFICIENT COMPLICATION.

In the R.A.E. system each aileron is coupled to the corresponding slot by a heavy and clumsy mechanism. To accommodate this mechanism, the slats which form the slots, instead of fitting snugly into the leading edge of the wing, have an ugly hollow underneath, which must materially affect the efficiency of the wing.

The ailerons which are used are of the type which has the hinge a long way back, and there is always a gap showing daylight between the leading edge of the aileron and the part of the wing immediately in front of it. One believes that the idea of this gap is that when the aileron is moved something of the slot effect is produced over the aileron itself. Possibly this may be so. But the permanent gap between the aileron and the wing must itself decrease the efficiency of the wing as a whole.

Besides this, the coupling arrangement of the R.A.E. mechanism is such that when both ailerons are in their normal neutral flying position the forward slot is very slightly open. And this again must spoil the wing.

Furthermore, in ordinary flying at speeds where the slot is not wanted at all, any motion of the aileron also moves the slot. And that, together with the hollow under the slot and the fact that the slot is open when it is not wanted, must pull down the speed of the machine considerably.

One gathers, indirectly, from pilots who have flown the R.A.E. outfit, that it does give quicker control than is got with the automatic slots and ordinary ailerons not coupled to the slats, but that the balanced ailerons with the gap in front snatch the machine badly when they are brought fully into operation.

Moreover, in this arrangement the slots only operate to their full extent when the machine is already absolutely stalled, whereas automatic slots open themselves when the machine is on the verge of stalling, whether there is any need to use the ailerons with them or not, and so act as automatic balancers.

The difference between the two is a beautiful example of the contrast between private enterprise under the direction of practical men and the kind of scientific research from which the Aircraft Industry has suffered ever since the early days of the Royal Aircraft Factory. It is the kind of research which, instead of co-operating with experimenters in the Trade, regards itself as a direct competitor with the Trade and pursues the policy of crabbing all Trade developments and representing to the High Authorities that the Trade development, whatever it may be, should be discouraged because the Government Research Department is just going to produce something ever so much better.

HOPED-FOR SPEEDING-UP.

However, Sir Samuel Hoare's personal experience with the Handley Page slot ought to do much to speed up the fitting of this very simple mechanism to Service machines. For the automatic slot can be fitted to existing machines in a quarter of the time needed for fitting the complicated and inefficient R.A.E. mechanism which has, one believes, been ordered.

After his flight, Sir Samuel stated quite definitely that the policy of the Air Council is to have slot controls fitted to all Service machines as soon as possible. One can only hope that, as the word "soon" implies a greater degree of relativity than anything imagined by Mr. Einstein, Sir Samuel and the Air Council will not allow the fitting of the slot control to be hindered by further promises from the R.A.E. The longer we delay the more people are going to be killed through stalling and spinning.

When the slot control is fitted we shall probably have an enormous number of crashes through slap-dash pilots forgetting that a machine which is descending almost vertically under full control by slots is actually coming down faster than a machine which is gliding. And the average pilot will probably need quite a good deal of practice before he can judge his rate of descent and learn the right moment at which to raise the tail of the machine and put it into an ordinary glide before sitting it down on the ground.

Quite a number of undercarriages will be pushed up through fuselages. But, after all, a broken undercarriage is cheaper than a broken neck. So the Air Force will show a profit on the deal.

Also, we may have wings breaking in the air through clever scientists miscalculating the stresses put on centre-sections when the outer sections of the wings are lifting and the unslotted middle part is not. But then, lives are always being wasted by the cocksureness of scientists.



PERSUASION IS THE BETTER PART OF ARGUMENT.—Mr. Handley Page discussing the Slot with Flt. Lt. Webster (the Schneider Trophy winner). Mr. Savage, Works Manager of H.P. Ltd., is seen on the left.

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More Aviators Fewer Pilots.

One very experienced R.A.F. instructor, discussing this question the other day, lamented that what with slot control and cushy oleo-undercarriages, we shall never be able to make real pilots. Probably that is true. But, after all, what we want is more and more aviators and safer and safer flying.

The proportion of good car drivers to bad on the road to-day is absurdly small. The majority of car drivers to-day would wreck any pre-War car if asked to drive it fast for fifty miles or so. But, thanks to the cars themselves being almost fool-proof, there is a great deal more motoring being done than would have been possible otherwise. And the production of the fool-proof aeroplane is going to have much the same effect both in war and peace.

Therefore the sooner our Service and Trade experts get out of their heads the idea that pilots are preferable to aviators the better for all of us.

The Process of Conversion.

Of late there seems to be considerable progress in the conversion of the Aircraft Industry to the use to slot control. The majority of test pilots of the various firms which together make up the Industry have now tested the Bristol with automatic slots which is being kept for that purpose at the Handley Page Aerodrome at Cricklewood. And judging from what one has heard from directors and designers of the various firms which employ the test pilots most of their reports have been distinctly in favour of the slot.

Naturally there have been amazingly contradictory reports. But that was only to be expected. Experts always disagree. And the mere fact that one expert is in favour of a thing is quite enough to make another damn it.

Apart from that, the really expert performer in any line of business always has a constitutional objection to any device which makes his performance easier. The nearer the implement on which he performs gets to being fool-proof, and the easier it becomes for the ordinary fool user to work it, the less is his value as an expert. And ultimately in its final stage of fool-proofness there ceases to be any need for an expert to demonstrate it, and so the expert finds his occupation gone.

Consequently the views of experts always have to be received with suspicion and, when all experts agree that a certain new idea is good, one can then decide definitely that they have simply been conquered by sheer force of circumstances.

Consequently the almost unanimous opinion of the Trade's test pilots on the usefulness of the Handley Page Slot goes very far to prove the claims which are made for that invention. And the high opinions which have been expressed about it by certain eminent test pilots in the past is the best possible proof of the intellectual honesty and the advanced intelligence of those pilots.

Naturally, in order to convince managing directors and chief designers who are not themselves pilots, those interested in the slot control have been obliged to convince their expert pilots. But if one were personally concerned with the slot control one would very much rather demonstrate it to a kind of jury of perfectly ordinary aviators.

In fact if one had the handling of the business one would buy a second-hand light aeroplane of a well-known type, fit it with slot control, take it round to the Flying Clubs and let all their "A" and "B" pilots have a flight in it. One would even let some of their more promising pupils who had not yet taken their tickets but had reached the stage of solo flying have a go at it.

After all, if one were selling player-pianos one would much rather demonstrate them to the ordinary musically-minded householder than ask a first-class professional pianist to play one himself. The mere fact that if everybody had player-pianos nobody would need to acquire the expert fingering which costs the pianist so much to learn would be quite enough to damn the automatic control of the player-piano in the mind of the expert.

Experts Disagree.

As an example of the opposition of expert views, one heard recently that two eminent pilots tested the Bristol at Cricklewood. One said that when the machine was stalled it invariably dropped its left wing.

This caused some concern to the Handley Page people, so their own pilot immediately went up in the machine to see if anything had gone wrong, because such a thing had never happened before. He found that after several stalls he was unable to get one wing to drop.

The other equally eminent pilot, after a test flight, said definitely that the beauty of the machine was its amazing lateral stability, and he added that, even should the machine be stalled with one wing down if left alone it returned of its own accord to an even keep surprisingly quickly.

Naturally some manufacturers are themselves opposed to the slot control, and naturally no manufacturer likes to have to pay a royalty to another manufacturer, more especially as we have not in this country any definite arrangements for the cross-licencing of patents, as have the manufacturers in the United States, who formed and belong to the Manufacturers' Aircraft Association.

Nevertheless, one is convinced that sooner or later every manufacturer will have to fit slot control, always supposing that somebody else does not come along with quite a different invention which will do the same thing.

Such an invention may conceivably be produced, working along the lines of the boundary-layer theory of Doctor Prandtl. In the earliest days of the pneumatic tyre quite a lot of efforts were made to get the same effect by other methods. But at the finish, in spite of the fight which many cycle manufacturers made against using the Dunlop-Welch patent, they were all compelled to come back to the original invention. And they all lost money by sticking out against it because, instead of co-operating whole-heartedly with the Dunlop group, they merely ruined the performance of their cycles by trying to be clever.

A Lesson from History.

One labours this point somewhat because one has been through exactly the same state of affairs in the early days of cycling before the motor-car was imagined, except for the very earliest experiments of Gottfried Daimler.

Firms who were compelled to fit pneumatic tyres against their will, simply because of the public demand, went so far as buying the tyres but would not take the advice of the tyre makers about such things as the shapes of rims, the proper way of fitting spokes and covering spoke-heads, and even the design and fitting of brakes.

Consequently they used to have all kinds of troubles with rims cutting into the tyres, and tubes chafing through, and old-fashioned spoon-brakes cutting up the treads. And, of course, they always blamed the tyres.

After a while the people who bought the bicycles took to buying bicycles of other makes on which the tyres gave no trouble. Thus the people who tried to dodge the Dunlop-Welch patents merely lost business. And History has a queer way of repeating itself.

One can quite imagine constructors, both here and abroad, arranging to fit slots under licence, but trying to fit them in ways of their own, so as to avoid being beholden to the patentees. One can only advise any who are thinking in that direction to start thinking other ways.

The Handley Page people are, one knows, keeping open house for everybody who is interested in the subject, so far as information about the slot goes. Naturally it is in their interests to see that every machine which is fitted with a slot works as perfectly as their own knowledge makes possible. And naturally the patentees, as the people who have done all the experimenting, know all the difficulties which have been met so far.

Therefore one hopes to see cordial co-operation between the Handley Page company and everybody else in the Aircraft Industry. The sooner slot control is fitted on all machines the sooner we shall stop having silly accidents not only in the Air Force but in Civil Aviation.

It is equally in the interest of the British Aircraft Industry as a whole that foreign makers should also take up slot control. For the fewer accidents there are in the World the sooner the World at large will be convinced of the safety as well as the usefulness of air transport, and the sooner everybody concerned with the manufacture of aircraft will make their fortunes.—C. G. G.

THE CANADIAN AIR LEAGUE.

A Canadian Air League has been formed and efforts are being made to establish branches throughout Canada, with headquarters in Ottawa, and there are hopes that about twenty or more branches will be formed. Early in the New Year a general meeting, consisting of representatives of all the provincial branches, will be held in Ottawa for the election of officers and the drawing up of a plan of campaign.

Major-General J. H. MacBrien, C.B., C.M.G., D.S.O., has been engaged on a lecture tour throughout the Dominion with the object of outlining the objects of the league and inaugurating the various branches.

A DISTINGUISHED AERIAL VISITOR.

M. Paul Painlevé, the French Minister for War, Professor of Analytical and Astronomical Mechanics at the Sorbonne and a mathematician and scientist of international reputation, paid a flying visit to this country last week.

M. Painlevé and a companion were brought to Croydon from Paris by two Breguet XIX machines of the French Army Air Service on Tuesday, Nov. 15, and returned to Paris on the same machines on Friday, Nov. 18.

During his visit to this country M. Painlevé paid a formal call at 10, Downing Street, and drove to Cambridge, where he had conferred upon him the honorary degree of Doctor of Science on Wednesday, and delivered a lecture on Relativity at the Institut Français du Royaume-Uni, South Kensington, on Thursday evening.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

The exceptional adaptability of the IIIF is doubly extended by the rapidly interchangeable sea and land undercarriages.

Also Sole Manufacturers and Licensees of
THE FAIREY PATENT METAL AIRSCREW
(Licence Reed) for the British Empire.

The Fairey Aviation Company, Ltd.
Hayes - - Middlesex.

FAIREY AIRCRAFT

THE FIRST OF OUR NEW AIRSHIPS.

R.100, the new 5,000,000 cubic foot airship now being built at Howden by the Airship Guarantee Co. under contract with the Air Ministry, is in an advanced stage of construction.

The contract for R.100 was placed in October, 1924, and at the same time the Royal Airship Works at Cardington received instructions for another of similar size, known as R.101.

Both ships have taken very considerably longer to construct than had been expected. This delay has been caused partly by strikes, particularly in 1926, partly by unforeseen technical difficulties, but it is interesting to find that R.100, which is the result of private enterprise, is in a far more advanced stage of construction than is the State-built ship.

Unfortunately the Cardington ship is still regarded as a very secret affair, so that it is not possible to enter into any details of her structure. It is, however, public property that R.101 is built mainly of steel tubing, and that she embodies a type of framework which differs in important respects from that of any rigid airship hitherto built.

The Airship Guarantee Company's ship R.100 also embodies many novelties in design and construction, but it is built entirely of duralumin, and the general arrangement of the main framing follows established Zeppelin practice in some important details.

The extent to which the general frame arrangement of R.100 follows established practice is confined to the fact that the hull is built up of triangular longitudinal girders which carry the main bending and shear stresses on the framework and that these are kept in shape by relatively light polygonal rings. These rings are made rigid by a system of bracing wires in the plane of each ring.

The actual details of the construction of R.100's main members are however very different from any hitherto used.

The most important novelty is that all the main longitudinal girders and the elements that compose the frame-rings are separate units fitted at each end with easily detachable joints securing them to appropriately designed joint members. Any damaged girder can be removed by merely undoing its end joints and replaced by joining in a new girder.

In previous rigid ships such a replacement meant cutting out the damaged part and rivetting in a new length of girder. To secure that girder units shall be thus interchangeable and replaceable has called for exceedingly close limits.

Another novelty in the construcion of R.100 is the type of boom used throughout the girders of this ship. In previous ships these booms have been of the type originated by the Zeppelin Company, and have consisted of an open angle-section rolled from duralumin strip. The three booms composing a complete triangular girder have been connected together by a strip lattice work, each strip being rivetted to the faces of the angle-section booms.

In R.100 the booms are circular tubes of about 5 inches diameter, made by wrapping a long strip of sheet duralumin up in a spiral, much as one rolls a strip of paper up to form a spill. [This form of tube, made of steel strip brazed in position, was patented by the Premier Cycle Co. Ltd. of Coventry, and was used about 1892 to 1900, or later.—C. G. G.]

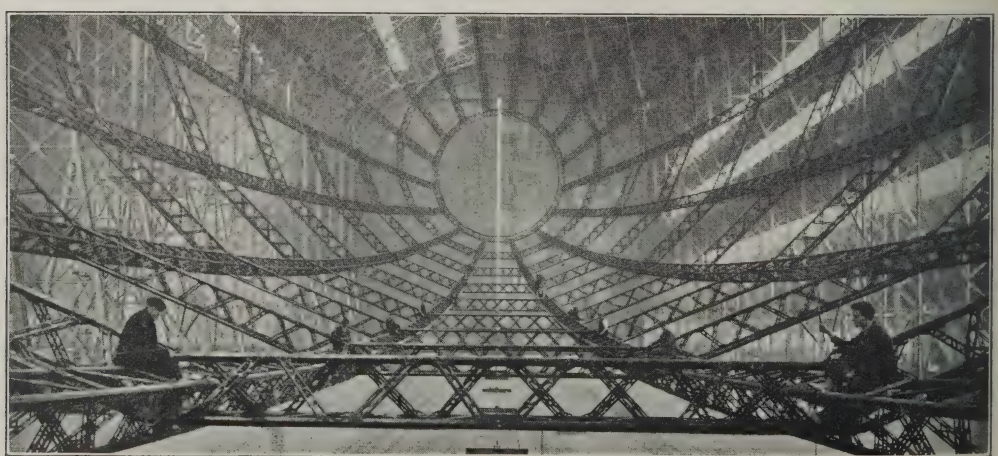
The tubes so formed are held together by spiral rows of rivets through the overlapping edges of the strip. These tubes are produced at a very rapid rate by a very ingenious automatic machine, and are both cheaper and more efficient than the angle type of boom.



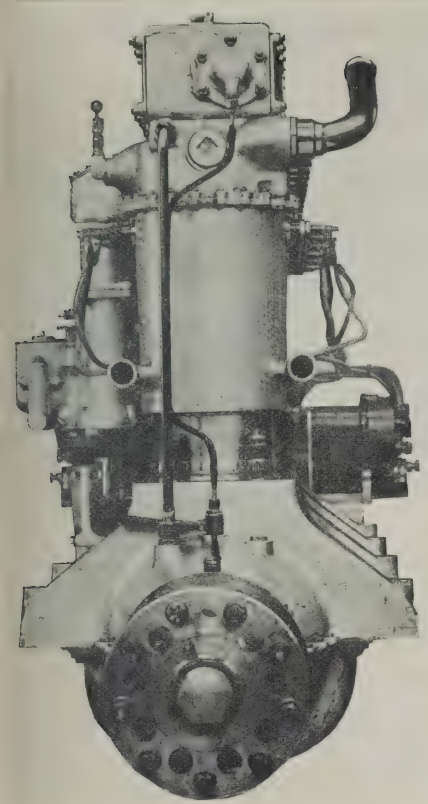
R.100.—Looking towards the bow of the ship. The pointed stern section may be seen up-ended on trestles.

Three of these tubes, coupled together by corrugated lattice work, pressed to shape and rivetted to the booms, form each unit of the main girders and of the frames. Each end of each tube is fitted with a socket, turned from solid duralumin, which socket is screwed and is secured to the joints at each end by collars screwed internally with both right and left-handed screws. One thread in the collar fits the thread on the tube socket, the other one fits on an appropriate projection on the joint.

The frame of R.100 has been built as nearly as possible to a streamline form, and there are no straight girders between



R.100.—Inside the hull, looking towards the bows. The immense size may be judged by the diminutive figures sitting on the longitudinal girders in the distance.



The A.D.C. "Nimbus" Aero Engine

INSTALLATION: INTERCHANGEABLE WITH THE PUMA ENGINE.

WEIGHT: APPROX. 2 lbs. PER H.P.

SMALL FRONTAL AREA.

300-330 h.p. A.D.C. NIMBUS AERO ENGINES

have been supplied to the

AUSTRALIAN GOVERNMENT,
SOUTH AFRICAN GOVERNMENT,
IRISH FREE STATE AIR FORCE,
AIRCRAFT OPERATING COMPANY
for their
RHODESIAN AIR SURVEY,
and to
A NUMBER OF AIRCRAFT CONSTRUCTORS, Etc.

Reliability and Efficiency are outstanding features of this aero engine.

MANUFACTURERS:

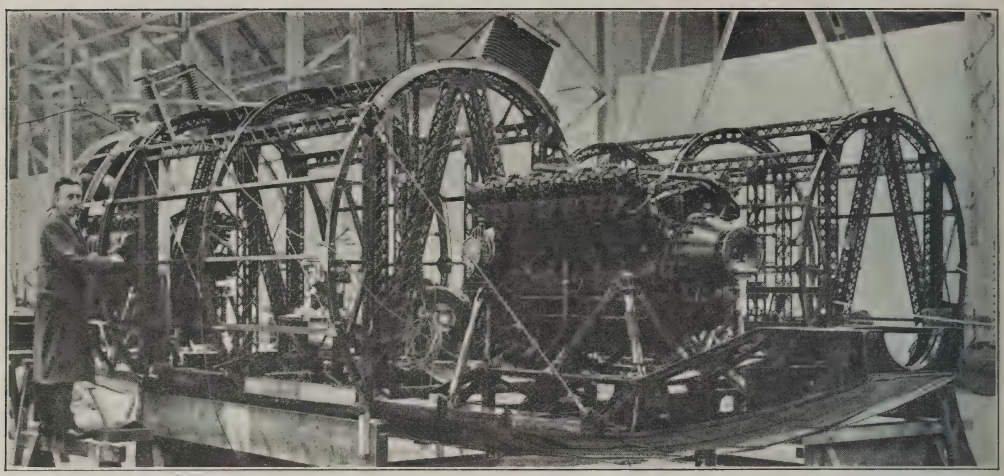
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R.100.—One of the engine nacelles (or power-eggs) with its Rolls-Royce Condor engines.

frames. Each girder is curved to the general line of the hull,—a detail which involves a good deal of extra trouble in design and construction, but is expected to reduce greatly the resistance of the ship. As the ship is of very full form —her ratio of length to diameter is only 5.3 to 1—the curvature of some of the longitudinal girders is very considerable.

Another new feature in R.100 is that the whole of the accommodation for crew and passengers, including the control positions, are inside the main hull framing.

Engine nacelles are necessarily outside the framing, but apart from these there will be no projection or protuberance to increase the resistance of the ship.

Since the original laying out of the design of R.100, experiment and research have provided much new knowledge both as to the stresses which may occur in so complex a structure as an airship hull, and also as to the loads which an airship may be called upon to resist in service. This new knowledge has been used where necessary to modify the original design, and as a consequence it is believed that R.100 is strong enough to withstand even such an unusual phenomenon as that which wrecked the U.S. Navy's *Shenandoah*.

It is hoped eventually to fit R.100 with engines burning heavy oil, but as no such engine has yet passed its official tests, six Rolls-Royce Condor engines of 700 h.p. each are to be fitted. No details as to their precise arrangement are at present available. At least one engine-nacelle (or power-egg) is to carry two engine units, but whether the ship will have five, four or three engine nacelles is unknown.

Equally unknown is the precise arrangement of passenger and crew space, etc. According to the original intention the control cabin was to have been in the extreme bow of the ship, but it seems probable that this intention has since been modified as the ship is required to use the existing mooring-mast at Cardington, which calls for mooring from the nose.

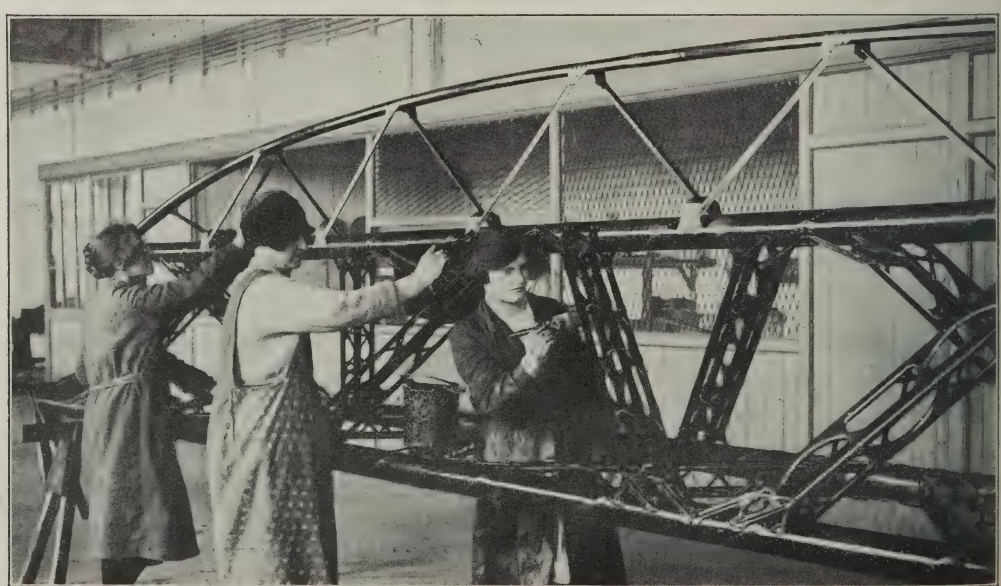
It is hoped that this ship will be completed by April, 1928, and will then be handed over to the Air Ministry for trials. On satisfactorily finishing these, the Aircraft Guarantee Co. have an option to buy the ship back from the Air Ministry provided that they undertake to run her on a commercial service approved by the Air Ministry.

On what service she will be able to run is highly uncertain, but it seems probable that at first she will be used for a demonstration tour round the British Empire.

Such dimensions and data as to the ship as are now available are given in the following specification :

SPECIFICATION.

Length ..... 709 ft.	Paying load ..... 24.5 tons (100 passengers 10 tons freight).
Max. Diameter ..... 130 ft.	
Nominal Displacement 5,000,000 cubic ft.	Power plant ... 6 Rolls-Royce Condors, 4,200 h.p. total.
Gross lift ..... 156 tons.	Estimated max. speed 82 m.p.h.
Disposable lift ..... 73 tons. (including crew and fuel).	Range at 75 m.p.h. 3,750 miles (50 hours).
Fuel capacity ..... 30 tons.	
Cruising speed ..... 75 m.p.h.	



R.100.—Structural details of the girder-work. The rivetted helical tubing is of particular interest.



MOTH
LANDPLANE
£730
READY TO FLY.

GUARANTEED PERFORMANCE
OF THE
MOTH

30-80 H.P. MARK II CIRRUS ENGINE.

SPEED - over 100 M.P.H.

(In full touring trim with pilot, passenger, 200 lbs. of luggage and fuel for 4½ hours' flight, long exhaust pipes, jury struts, etc., fitted.)

LANDING SPEED - 40 M.P.H.

RATE OF CLIMB
650 FT. PER MIN.

(The World's Two Seater Light Aeroplane Record is held by a Moth—17,289 feet).

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MOTH
SEAPLANE
£1,150
Ready to Fly.

SIR ALAN COBHAM'S AFRICAN FLIGHT.

On Thursday, Nov. 17, a considerable number of guests were invited to a send-off lunch to Sir Alan and Lady Cobham and their party, given jointly by Short Bros. and by Rolls-Royce Ltd. The party was to have left London by a train starting at 10 a.m. and reaching Strood a few minutes past eleven, which would have given the guests ample time to inspect the Singapore, as equipped for the expedition, to visit the works of Short Bros., and to get through lunch comfortably in time for Sir Alan Cobham's departure, which was timed for 1.30 p.m.

Unfortunately there was a fog over South-Eastern England that morning, the appointed train was half an hour late in starting and one hour late in arriving, so that the inspection part of the programme had to be cut out, and the lunch proceedings were necessarily curtailed.

Sir Charles Wakefield, Bart., the financial mainstay of the voyage, as of many other flying enterprises, was in the Chair, and in a brief speech wished Sir Alan and Lady Cobham a successful journey and a triumphant return. He remarked that all Sir Alan's great flights had been great adventures, but there had been more than that. They had all been devised to serve a practical end, and they had in fact served such ends.

This new flight would be the more thrilling because on this occasion Lady Cobham was to form one of the party. Those who knew her would understand that she was no mere passenger. She had signed on as one of the crew, and she would take her full share in the routine duties of the trip.

The Mayor of Rochester, on behalf of a city deeply interested in the development of the seaplane, wished the expedition God-speed on their journey.

Sir Alan very briefly returned thanks for the good wishes.

The party then adjourned rapidly to Short Bros.' jetty, and saw the Singapore take off on the first leg of the journey. The start was made—despite the delays of the morning—promptly at the time fixed, and with the punctuality characteristic of Sir Alan Cobham. The machine passed over Central London exactly at the appointed hour.

Incidentally it is worth recording that the wind at the time of the take-off from Rochester was across river, that the tide was low, and that the Singapore was loaded to a total of approximately 19,000 lbs. Under these conditions the machine was off the water in under 5 seconds, from opening up of the engines, and had plenty of room to spare even on the Medway.

Sir Alan and his party flew up the Thames through London and cut across country to Southampton, where they alighted safely.

The crew is composed of Sir Alan Cobham, K.B.E., A.F.C., and Mr. Worrall, D.S.C., pilots, Lady Cobham, Mr. F. Green, Mr. C. E. Conway (of Rolls-Royce, Ltd.), mechanics, and Mr. S. Bonnett (of Gaumont, Ltd.), cinematographer.

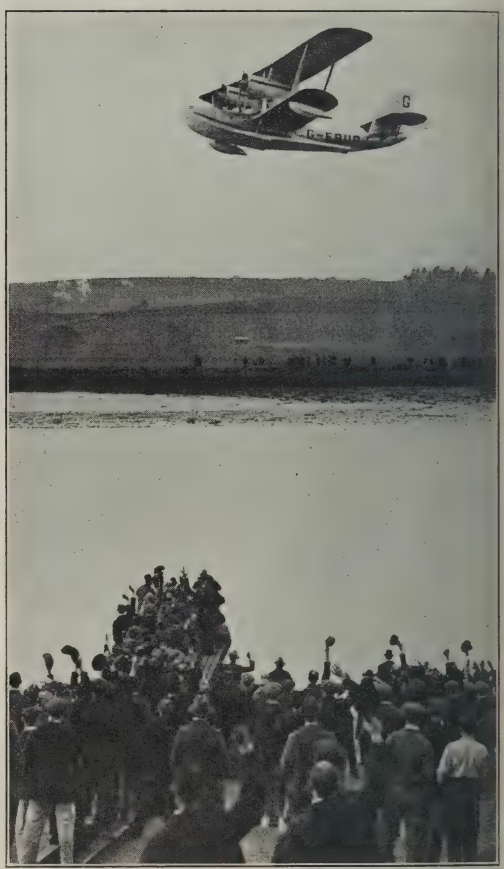
Incidentally Mr. Worrall has the distinction of having got his D.S.C. for being the only pilot to hit the *Goeben* with a bomb when she was aground for three or four days outside the Dardanelles.

The route which is to be followed on this flight is from Rochester to Hamble, thence to Bordeaux, overland north of the Pyrenees to the Etang de Berre (Marseilles), across the Mediterranean to Egypt, down the Nile to the Great Lakes, thence to the East coast of Africa to Beira, round the coast to Cape Town, and thence home up the west coasts of Africa, Portugal, Spain, and France, to Britain.

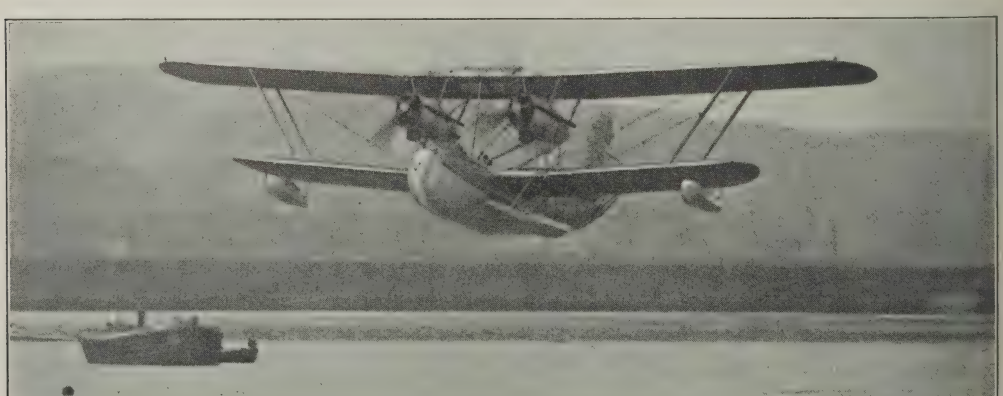
On Friday and Saturday, Nov. 18 and 19, the weather in the Channel and Bay of Biscay was too bad to attempt the trip on to Bordeaux, but on Sunday, Nov. 20, a start was made at 8.25 a.m., and Hourtin, near Bordeaux, was reached at 4.5 p.m. without untoward incident.

On Monday the crossing of France from Bordeaux to Marseilles was made against a strong head-wind in six hours, and the Singapore spent the night at the Marignane air station, on the Lac de Berre.

"Farewell; The Gods with safety stand about thee."
(SHAKESPEARE—*Troilus and Cressida.*)



WELL AWAY.—Sir Alan and Lady Cobham, Mr. Worrall and crew, passing Short Bros.' jetty at the start of their great adventure.



OFF.—Sir Alan and Lady Cobham starting from Rochester in the all-metal Short Singapore (Rolls-Royce Condors) on their way up the Thames. (*"Aeroplane" photograph.*)



NEARLY

1,000 MILES A DAY for 18 DAYS

was the record of the three 180-210 h.p.

ARMSTRONG SIDDELEY

LYNX ENGINES

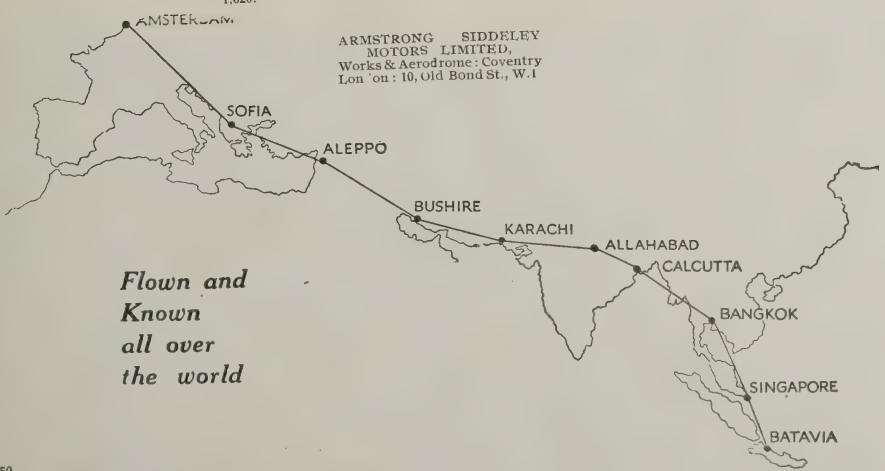
used in Lt. G. A. Koppen's Fokker on its Amsterdam-Batavia and back flight.

The AEROPLANE says:

"It is the first big flight in which British engines of medium power have been used. The Armstrong Siddeley Lynx engine has now proved itself worthy to rank with the history-making motors of the world."

MAIN FEATURES OF THE "LYNX."

7 Cylinders, 5 ins. by 5.5 ins.= 147 mm. by 140 mm.
756 cubic inches=12.395 litres.
Compression ratio, 5 to 1.
180 to 210 h.p. Normal r.p.m. 1,620.
Petrol consumption, .56 pints per h.p. hour.
Oil consumption, .025 pints per h.p. hour.
Weight dry, 480 lbs.=217 kilograms.



ARMSTRONG SIDDELEY MOTORS LIMITED,
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Flown and Known all over the world

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THE ROYAL AIR FORCE.

The London Gazette.

Nov. 15.

General Duties Branch.—J. E. M. Bainbridge (late Sec. Lt., Royal Corps of Signals) is granted a perm comn. in the rank of Plt. Off. (Nov. 1); L. L. King is granted a S.S. comn. in the rank of Flg. Off. (Oct. 17).

The following Plt. Offs. are promoted to the rank of Flg. Off.:—C. S. Cadell (Mar. 18); H. C. Johnson (July 16); W. M. Phillips (July 16); N. C. Ross-Roberts (Sept. 13). Sq. Ldr. A. P. Maurice, D.F.C., is placed on the half-pay list, Scale B (Mar. 23 to 31 inclusive).

The following are seconded for duty with the Royal Australian Air Force (Nov. 12):—Wing Cdr. M. Spicer; Sq. Ldr. H. G. Smart, O.B.E., D.F.C., A.F.C.; Sq. Ldr. T. F. W. Thompson, D.F.C.

Flg. Off. A. T. E. Witt, M.B.E., is placed on the retired list at his own request (Nov. 12); Flg. Off. C. Lloyd (Lieut., The Buffs) relinquishes his temp. comn. on completion of duty with the R.A.F. (Nov. 13); the S.S. comn. of Plt. Off. on Probation E. J. Martin is terminated on cessation of duty (Nov. 11).

Stores Branch.—The following Plt. Offs. on probation are confirmed in rank and promoted to the rank of Flg. Off. (Oct. 9):—M. S. Shapcott, C. I. Fry, W. A. Stagg.

Flt. Lt. G. T. Stroud, M.B.E., is placed on the retired list (Nov. 13).

Reserve of Air Force Officers.—General Duties Branch.—The following Flt. Lts. are employed with the Regular Air Force for a period of two years (Nov. 1):—M. Ballard, A. E. Woodbridge. The following Flg. Offs. are transferred from Class A to Class C:—H. A. Bayne (Sept. 5); H. V. Michell (Nov. 15). Plt. Off. J. P. James is transferred from Class BB to Class C (Mar. 5); Flt. Lt. E. W. Simpson ceases to be employed with the Regular Air Force (Sept. 5).

The following relinquish their comns on completion of service:—Flt. Lt. W. R. G. Atkins, O.B.E. (Sept. 18); Flg. Off. I. C. G. Simpson (Sept. 28).

Special Reserve.—The comn. of Plt. Off. on Probation R. B. Mitchell is terminated on cessation of duty (Oct. 10).

Appointments.

Week ending Nov. 21.

General Duties Branch.—Squadron Leaders R. S. Maxwell, M.C., D.F.C., to No. 70 Sqdn., 'Iraq, 1/11. R. Collishaw, D.S.O., O.B.E., D.S.C., D.F.C., to H.Q., A.D.G.B., Uxbridge, 18/11. W. D. Budgen, to Fighting Area H.Q., Uxbridge, 14/11.

Flight Lieutenants J. D. S. Denholm, to H.Q., A.D.G.B., Uxbridge, 7/11. W. V. Simons, to R.A.F. Base, Malta, 15/10.

Flying Officers H. M. Schofield, to R.A.F. Station, Upper Heyford, 23/11. R. Barrett, to R.A.F. Depot, Uxbridge, 21/11. T. A. Hale-Munro, to No. 111 Sqdn., Duxford, 7/11. N. A. West, to Armoured Car Wing, 'Iraq, 1/11. L. C. Barling to No. 111 Sqdn., Duxford, 21/11. C. H. Roberts, to R.A.F. Depot, Uxbridge, 15/11. A. L. Macmillan, to H.M.S. *Hermes*, 4/11. P. E. Grenfell, to No. 13 Sqdn., Andover, 1/11.

Pilot Officers L. S. Tindall, to No. 2 F.T.S., Digby, 7/11. M. Griffiths, to No. 26 Sqdn., Catterick, 10/11. W. M. Moore, to No. 26 Sqdn., Catterick, 8/11. P. C. Fair, to No. 1 F.T.S., Netheravon, on appointment to a Perm. Comn., 15/11.

Medical Branch.—Squadron Leaders J. Rothwell, M.B., and D. G. Boddie, M.B., to R.A.F. Combined Hospital, 'Iraq, 13/10. W. G. L. Wambeck, to Station H.Q., Hinaidi, 15/10.

Flight Lieutenant B. Pollard, to R.A.F. Depot, Uxbridge, 21/1.

Flying Officers G. E. Church, M.B., and P. H. Perkins, to R.A.F. Combined Hospital, 'Iraq, 13/10. R. A. W. Kerr, M.B., and F. J. T. McWeeney, M.B., to R.A.F. General Hospital, 'Iraq, 15/10. R. Thorpe, to Station H.Q., Hinaidi, 15/10. V. V. Brown, M. Clancy, W. Heron, F. E. Lipscomb, J. F. McGovern, C. P. O'Toole, S. B. S. Smith, G. H. Williams and D. A. Wilson, to Research Laboratory and M.O.S. of I., on appointment to S.S. Comns., 15/11.

Stores Branch.—Flying Officer H. N. Davies, to No. 55 Sqdn., 'Iraq, instead of to No. 6 Sqdn., as previously notified, 14/10.

Accountant Branch.—Flying Officer F. J. S. Short, to Wireless Station, Ismailia, 27/10.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident at Shaibah to a D.H.9a machine of No. 84 (Bombing) Squadron, Shaibah, Iraq, on Nov. 19, 345692 Sergeant Arthur Alfred Cole, the pilot of the aircraft, and 342720 Aircraftman Patrick Conlon were killed.

The Sassoon Cup.

An Air Ministry communication dated Nov. 16 states that the annual competition for the cup presented by the Under-Secretary of State for Air, Sir Philip A. G. D. Sassoon, Bart., G.B.E., C.M.G., M.P., for map reading test for pilots of the Fighter Squadrons under the command of Air Marshal Sir John Salmond, Air Officer Commanding-in-Chief, Air Defence of Great Britain, resulted in a tie between No. 41 (Fighter) Squadron, Northolt (last year's winners), and No. 19 (Fighter) Squadron, Duxford.

All pilots of the Fighter Squadrons had taken part in the preliminary heats during the past few weeks, and the Squadrons which qualified for the final were No. 41 Sqdn., No. 19 Sqdn., and No. 56 Sqdn., North Weald.

Martlesham Heath Aerodrome was selected as the base for the finals which were held on Nov. 15. Each team consisted of six pilots from each Squadron, and the test consisted of finding and dropping messages upon four selected "pin points," not easy to find on a 100-mile course over Suffolk and Norfolk.

This country was specially selected as it is flat and covered with a maze of small roads, many of which are not marked on the small-scale maps. It has no outstanding features to guide pilots, and provides an excellent test for skill and observation.

The high standard of map reading attained by the leading Squadrons is shown by the fact that all the six pilots of both the winning Squadrons found all the points correctly in spite of the fact that the weather was by no means ideal.

The Far East Cruise.

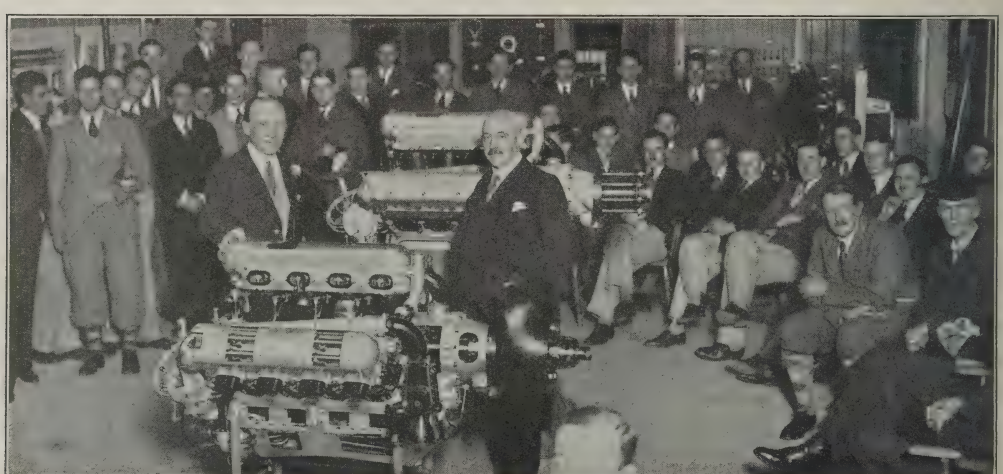
The Service Flying Boat Cruise of four Supermarine Southamptons (Napier Lion engines), commanded by Group Capt. H. M. Cave-Browne-Cave, D.S.O., D.F.C., which left Cattewater on Oct. 17, reached Gwadder, Baluchistan on Nov. 16.

On Nov. 18 the Flight arrived at Karachi. They were escorted over Karachi by R.A.F. machines, and alighted in the harbour.

The first stage of the cruise has been completed in formation, to scheduled time, and without any mechanical trouble whatever.

The R.A.F. Ensign Dedicated.

The R.A.F. Ensign was dedicated by the Bishop of Chester in Chester Cathedral on Nov. 20. The Secretary of State for Air was present and before the Service inspected the Guard of Honour from No. 5 Flying Training School, R.A.F., Sea-



THE OXFORD UNIVERSITY AIR SQUADRON.—The Vice-Chancellor of the University, Doctor Farnall, on the extreme right, Sir Harry Brittain, M.P., and Mr. H. T. Vane, of the Napier Co., in middle, on the occasion of the presentation of two Napier engines (one sectional for interior inspection) by the firm for the education of Oxford, young and old.

B T-H

MAGNETOS

London——————Cape Town

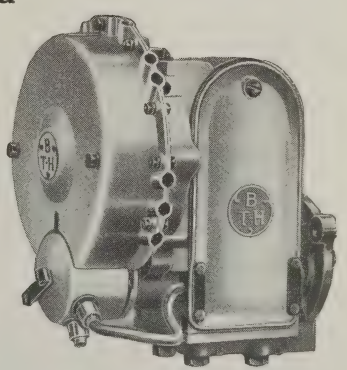
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London——————Zurich

Aerial Survey of Africa

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land. The R.A.F. Band took part in the Service. Chester Cathedral which already possesses a naval memorial and a military chapel is to have a Royal Air Force shrine.

The Lord Mayor's Show.

A detachment of No. 600 (City of London) (Bombing) Squadron, Auxiliary Air Force, took part in the procession through the City of London on Lord Mayor's Day, Nov. 9. The detachment was accompanied by a dismantled D.H.9a machine, part of the equipment of the Squadron.

No. 600 Squadron is commanded by Sq. Ldr. the Rt. Hon. F. E. Guest, P.C., C.B.E., D.S.O., M.P., A.A.F.

Commands and Staff.

Sq. Ldr. R. S. Maxwell, M.C., D.F.C., whose appointment to No. 70 (Bombing) Squadron Iraq is dated Nov. 1, learned to fly on a Maurice Farman biplane at Farnborough, and his Royal Aero Club Certificate, No. 1375, is dated June 30, 1915. He was then a Lieutenant in the East Yorkshire Regiment.

At the end of 1915 he was seconded to the R.F.C. and joined No. 20 Squadron, II. Brigade, 11th Wing, where he commanded a Flight. He was later appointed to command No. 18 Squadron (F.E. 2bs.). From 1917 until the Armistice he commanded a Scout Squadron in France.

Later he served in 'Iraq, where he commanded No. 55 Squadron.

He was awarded the Military Cross on Jan. 1, 1917, and the Distinguished Flying Cross on Feb. 8, 1919.

He was promoted to the rank of Squadron Leader on June 30, 1921. In October, 1923, he was appointed to command No. 24 Squadron at Kenley, and in September, 1925, he was appointed to command No. 47 Squadron at Helwan.

In 1926 he was second in command to Air Commodore Samson in the flight from Cairo to the Cape and back.

Sq. Ldr. Raymond Collishaw, D.S.O., O.B.E., D.S.C., D.F.C., whose appointment to H.Q. A.D.G.B. is dated Nov. 18, came from Canada and joined the R.N.A.S. on the outbreak of War in 1914. He served with the R.N.A.S. and R.A.F. in France, and was awarded the D.S.C. in July, 1917, the D.S.O. in August, 1917, and a bar to the D.S.O. in September, 1918, and the D.F.C. in August, 1918.

After the Armistice he commanded No. 47 Squadron through the campaign in South Russia, and was awarded the O.B.E. (July, 1920), the Order of St. Anne, 2nd class, with swords (Nov. 18, 1919), and the Order of St. Stanislas, 2nd class with swords (Nov. 18, 1919).

At the end of the campaign in South Russia he was posted to Iraq to command No. 30 (Bombing) Squadron. On Oct. 23 he was restored to the Home Establishment to command No. 41 (Fighter) Squadron, and in 1924 passed a course at the Staff College, Andover.

Since July, 1925, he has been commanding No. 23 (Fighter) Squadron. He was promoted to the rank of Squadron Leader on Jan. 1, 1922.

R.A.F. SPORTS AND PASTIMES.

The Woolwich-Cranwell Match.

The R.M.A., Woolwich, beat the R.A.F. Cadet College, Cranwell, at Cranwell by a goal and three tries (14) to a goal and two tries (11). At half-time Cranwell were leading by 11 points to 6.

This match was not played last year owing to an epidemic, but in 1925 Woolwich won by 21 points to 11. In 1924 Woolwich won by 40 points to nil, in 1923 Woolwich won by 23 points to nil, and in 1922 Woolwich won by 19 points to 8. Cranwell beat Woolwich in 1921 by 11 points to 7.

The Wrathful Wrafs.

The following letter has been received :—

Dear Sir,—I have read with regret the notes in your issue of Nov. 16 under the heading "Rousing the W.R.A.F. to Wrath"; for I know that it is only inadvertently that THE AEROPLANE would do less than justice.

Anyone who served in 1915 or 1916 with the Royal Flying Corps in the United Kingdom may remember the Women's Legion as a body of civilian volunteers, chiefly cooks and drivers, who did valuable work and helped to show that man power could be increased by the employment of women with H.M. Forces. In 1917 many of the cooks were enrolled in the Women's Army Auxiliary Corps, while the Women's Legion Motor Transport Section was absorbed into the Army under Q.M.G., War Office.

I think you will agree, therefore, that the Women's Legion should not be described as an "irregular force" and that appreciation is due to Lady Londonderry as the founder and organiser of a very useful body of women. No doubt it was for that reason that she was asked to lead the ex-Service women in the parade arranged by the British Legion on Armistice Day.

That, at least, is the view of the W.R.A.F. Old Comrades' Association, and they, I may add, would be the last to complain that the ceremony at the R.A.F. Memorial took place punctually, however sorry they are that their own contingent could not arrive in time.

(Signed) H. C. I. GWYNNE-VAUGHAN.

While agreeing with Dame Helen Gwynne-Vaughan that the Women's Legion were very worthy people who did valuable work during the War, and while believing that as such they are fully entitled to send a deputation to the celebrations at the Cenotaph along with other civilian volunteers such as the various motor volunteer corps and other irregular bodies, one does sympathise entirely with the offended members of the W.R.A.F.

The three women's corps, the W.R.N.S., the Q.M.A.A.Cs., and the W.R.A.Fs., were definitely enlisted and uniformed corps which were auxiliaries to the three Fighting Services. The Women's Legion were no more genuine Service people than one was oneself as a driver in a comic volunteer transport unit which used to carry troops across London at night. Therefore one certainly regards the Women's Legion as an irregular force, and one can quite understand the annoyance of the W.R.A.Fs. at being lumped together with them on such an official occasion. To the W.R.A.Fs. it must have been just as irritating as it would be to regular soldiers of the Old Army, or even to volunteers of the Kitchener battalions, to be paraded with special constables and stay-at-home motor volunteers such as oneself, at some official ceremony.

But, even more annoying than the parading of Service detachments with civilian deputations was the extraordinarily tactless act of telling the Service detachments to leave behind them the wreaths which they had brought in memory of their dead. One can see no reason for such an order, and to those immediately concerned it must have appeared as a deliberate attempt to exalt the Women's Legion and to belittle the three regular Service detachments.

One suggests that on future occasions each Service detachment should be led by the officer who formed it, or at any rate commanded it at the time of the Armistice, until such time as she may be disabled by age or infirmity.—C. G. G.

THE BALLOON HEIGHT RECORD.

The National Aeronautic Association has announced that the height reached by Capt. Hawthorne Gray, U.S.A.C., on Nov. 5, when he lost his life while attempting to beat his own balloon altitude record, was 42,470 feet.

This figure has been submitted to the F.A.I. for homologation.



TO COMPLETE ESTABLISHMENT.—The case contains the hull of one of the two metal-hulled Southamptons which are being sent to the Far East, to join the Far East Flight at Singapore. It is said to be the largest aircraft packing-case ever built.

SOME UNEQUALLED PERFORMANCES.

REGULARITY-SECURITY-ENDURANCE

LORRAINE AERO ENGINES.

Rome-Melbourne-Tokyo (54,000 km.) by Colonel de Pinedo and Campanelli (450 h.p. motor).
The Tour of Europe (7,500 km.) in 61 hours from start to finish, by Arrachart and Carol (450 h.p. motor).
Warsaw-Tokyo-Warsaw (20,250 km.) in 130 hours, by Lieut. Orlinski (450 h.p. motor).
Paris-Pekin (10,500 km.) in 6 days, by Pelletier Doisy and Carol (450 h.p. motor).
Circuit of the West Mediterranean (6,000 km.) in 41 hours 50 mins. from start to finish, by Pelletier Doisy and Gonin (450 h.p. motor).
Night Crossing of the South Atlantic, by Colonel Sarmento de Beires (450 h.p. geared motor).
Paris-Bombay-Belgrade (14,500 km.) in 89 hours flying time by Sondermayer and Baydak (450 h.p. motor).
Circuit of Eastern Europe (8,000 km.) in 7 days by Commandant Weiss and Assolant (450 h.p. geared motor).
Circuit of the Mediterranean (10,700 km.) in 6 days by Pelletier Doisy and Gonin (650 h.p. geared motor).
Michelin Cup, 1925 (Captain Pelletier Doisy), 1927 (Capt. Challes).
Breguet Cup, 1925 (Adjt. Sahuc), 1926 (Adjt. Duroyon).
King of Servia's Cup, 1926 and 1927.

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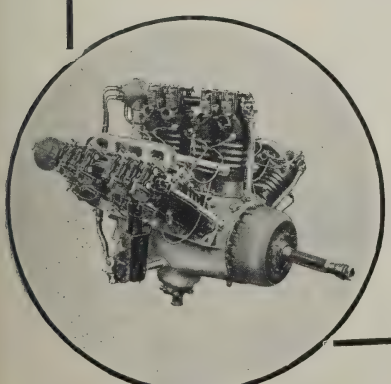
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AIR AFFAIRS IN PARLIAMENT.

CAPITALISM VERSUS SOCIALISM.

In the House of Commons on Nov. 16, in reply to a question by Mr. Hardie, the Secretary of State for Air said that satisfactory progress was being made in the work on the R.101 at Cardington. The manufacture of the gas-bags, control car and instruments, power cars, passenger and crew accommodation, miscellaneous girder work and fuel system was approximately two-thirds complete. The assembly of the transverse frames had begun.

In reply to questions by Mr. Rose and Mr. Hardie, the Secretary of State for Air said that the total sum provided in the original estimate for the construction of R.101 might be put at approximately £300,000. This sum was likely to be exceeded by about £100,000. The contract price for the Howden airship had not been modified and remained as originally fixed at £350,000.

In reply to a further question by Mr. Hardie, the Secretary of State for Air said that the contract, being of an experimental nature, contained no specific penalty clause, but it did contain various contractual stipulations and provisions designed, under legal advice, to safeguard the interests of the Department in the event of delay in completion. The Company were entitled under the terms of the contract to claim an extension of time beyond the contract date of completion in respect of delay caused by strikes or lock-outs affecting the workmen of the Company or its sub-contractors, and the question of such an extension was now the subject of discussion with the Company.

[One gathers that Commander Burney's ship, built by Capitalists at Howden, is nearly finished. Thus we see that Capitalistic construction is both quicker and cheaper than Socialistic methods.—C. G. G.]

IMPERIAL AIRWAYS.

In the House of Commons on Nov. 16, in reply to a question by Cdr. Bellairs, the Secretary of State for Air said that in 1926 the aircraft operated by Imperial Airways Ltd. flew 732,980 miles on the European subsidised services. During that year the subsidy was at the rate of £137,000 per annum, and therefore the cost to the State per mile flown was, approximately, 3s. 9d.

THE AIR DEFENCE OF LONDON.

In the House of Commons on Nov. 16, in reply to a question by Sir W. Davison, the Secretary of State for Air said that the defence of London was an essential part of the scheme for the air defence of this country approved by His Majesty's Government in 1923. Of the 52 Squadrons provided for in that scheme 28 had been formed and three more were due to form before the end of the present financial year.

[Sir Samuel Hoare's figures appear to include the two Special Reserve Squadrons and the five Auxiliary Air Force Squadrons, which, however keen the personnel may be, cannot possibly be counted, owing to their brief training and antique equipment, as having more than 25 per cent. of the fighting value of a Regular Squadron.—C. G. G.]

EMPIRE AIR ROUTES.

In the House of Commons on Nov. 17, in reply to a question by Lt.-Cdr. Kenworthy, the Secretary of State for Air said that the Persian Government had not yet agreed to the operation of the route along the shores of the Persian Gulf. The Government of India were beginning the organisation of the main route across India from Karachi to Calcutta and the R.A.F. had surveyed the route from Calcutta to Rangoon and Singapore. The experimental service between Khartum and Kisumu had been interrupted by another mishap to the machine employed, but Sir Alan Cobham would make further experimental flights over the route during the tour which he was about to make for the purpose of personally negotiating for the extension southwards of this route and the establishment of an air service in South Africa. The question of the provision of the subsidy necessary for the establishment of the Khartum—Kisumu air service on a permanent basis had been considered at the recent Colonial Office Conference and had been taken up with the Governments concerned.

THE FRENCH AIR ESTIMATES.

The draft estimates for the French air services for 1928 show a total increase over the voted estimates for 1927 of 276,635,897 francs (£2,231,000 approx.).

The amounts are tabulated below, but it must be remembered that changes invariably occur before the sums are finally voted.

	1928 Estimates.	1927 Estimates.	Increase.
Military ...	844,878,860	747,755,190	97,123,670
Naval ...	251,597,500	99,749,900	151,847,600
Colonial ...	20,313,267	18,260,900	2,052,367
Civil ...	194,823,500	169,211,240	25,612,260
Total ...	1,311,613,127	1,034,977,230	276,635,897

AN ITALIAN PUBLIC AEROPLANE FUND.

The Italian Aero Club has proposed a national movement with the object of stimulating airmindedness. Provinces, towns, factories, societies, etc., are being encouraged to subscribe towards the cost of providing and presenting aircraft to the *Regia Aeronautica*. Signor Mussolini has definitely announced that the subscriptions are to be "popular" and spontaneous, and that there must be no suspicion of pressure, direct or indirect.

The scheme is meeting with a fair amount of success, although up to the present only one aeroplane has actually been presented. Various institutions, such as The National Confederation of Farmers, The Turin Aero Club, The Railway and Harbour Militias, the employees of the Abattoir of Naples and of the Fiat Co. of Turin, are subscribing for others.

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ALL THE WORLD'S AIRCRAFT, 1927. C. G. Grey and L. Bridgman. **42s.**

THE WAR IN THE AIR. Vol. I. Sir Walter Raleigh **21s.**

THE OLD FLYING DAYS. C. C. Turner. **25s.**

LAND, SEA AND AIR. Mark Kerr. **21s.**

REMINISCENCES OF A NAVAL SURGEON. T. T. Jeans. **18s.**

WE—PILOT AND PLANE. C. Lindbergh. **7s. 6d**

INDIA BY AIR. Sir Samuel Hoare. **6s. 6d.**

AN ESCAPER'S LOG. D. Grinnel-Milne. **7s. 6d.**

WAR BIRDS, The Diary of an Unknown Aviator. 7s. 6d.

NOCTURNE MILITAIRE. E. W. Springs. **7s. 6d.**

THE WORLD FLIGHT. Lowell Thomas. **24s.**

OVER THE BALKANS AND SOUTH RUSSIA. H. A. Jones. **10s. 6d.**

THE CONQUEST OF THE AIR. C. L. M. Brown. **2s. 6d.**

RHYMES OF THE R.A.F. C. L. M. Brown. **2s.**

There will be a New Book List in The New Year.

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GERMAN AVIATION FROM WITHIN (August 8 to 12, 1927).—II.

By C. F. Snowden Gamble.

Berlin.

Since the Armistice, one has lived in and travelled in thirteen different countries both in Europe and Asia, but Berlin impressed one more than any other capital city one has seen. It is well-kept, clean, and the streets are wider and straighter than those of any other European capital that one has lived in.

One was particularly interested in the methods of traffic control—coloured signal lamps (red, orange and green) are hung along most of the main streets, about twenty feet from the ground and controlled from signal towers. Red and white arrows mounted on pedestals show the direction the traffic must follow, and, at night time, many sharp corners are illuminated by red lights showing through glass cones built into the middle of the road. Although the density of the traffic is not as great as that in London, the speed in proportion to the density is much higher in Berlin.

One was also struck by the absence of the "Catcheehavee" spirit in the shops that is so rampant in Latin countries. Also that there seemed to be no beggars. It is a city in which one could spend a pleasant and cheap holiday.

Police Proceedings.

Next morning (Tuesday) at an early hour, one sallied forth with one's friend to the Police Headquarters, and there one met German officialdom in all its might, glory, and immutability. One was sent hither and thither from room to room, filled in forms giving such extremely relevant details as the Christian name of one's Mother and the birthplace of one's wife—all the time being herded with Jews, Héretics, Fire Worshippers and the Pentecostal sweepings of the East.

When officialdom became tired of one, it directed one to a seat facing a wall-cabinet containing scores of ghastly photographs of Germans who had been murdered and who had not been identified. It is supposed that this was to keep one humble.

Finally, one was ushered into the presence of a most tremendously important person who, with a delightful smile and a warm handshake, sentenced one to four days' imprisonment. On one's good friend pointing out that a "joke's a joke, but a girl can't laugh *all* the time," he commuted it to a fine of 20 marks, saying that one could appeal if one wished "but the result would be just the same, you know."

It took about an hour-and-a-quarter to pay that fine. And, as one finally emerged from the building (thankful that the affair had not occurred in a Latin country) one was almost run over by a "Black Maria" full to the brim with prisoners!

This adventure reminds one of the story that they tell in Germany of one of their pilots who had a forced-landing in "another country." He was forcibly seized by the Police who read—he alleged—the whole of the Treaty of Versailles to him—it took three hours and twenty minutes to do so. He, not knowing one word of their language, dozed peacefully while they read to him. When they had finished, he shook them warmly by the hand, thanked them for a delightful afternoon—and flew away. One gathers that they have not been the same policemen since!

To revert to one's own affair, on leaving the Police presented one with an official document, stating that one had been found guilty and had paid the penalty. But one's friends could never agree among themselves whether one was really a criminal or not.

The Centre of German Aviation.

At midday one was introduced to Major von Tschudi, the Secretary of the German Aero Club, and his assistant, von Höppner (the son of the former General Officer Commanding the German Military Air Service) at the Club premises, and the former very kindly gave one lunch.

The Club premises are excellent, and the walls are adorned with many paintings illustrating the exploits of German pilots during the War 1914-18. One's host explained that he knew that we had similar paintings in this country, the only difference being that in ours the *German* pilot was always at the bottom of the picture!

He also mentioned that he was continually being asked by Club members why he did not arrange that the club should have a machine available for the use of its pilot members. His reply to them was—that he did not know of a Cavalry Club that kept a tame horse for the use of its members, nor an Artillery Club a Howitzer; and really, he did not see why *he* should be called upon to provide a tame aeroplane.

Staaken.

In the afternoon, one was motored (in a fine Benz car) to the repair shops of *Deutsche Luft Hansa A.G.* at Staaken. These shops are built next to the old Zeppelin Airship Shed—this latter, though still owned by *Luftschiffbau Zeppelin G.m.b.h.* is leased to certain Cinema Film Companies, the chief of which is the *UFA* Company.

One was met at the steps by an official of the *Luft Hansa*, who showed one round the shops. It should be mentioned that this depot and the one at Boblingen (near Stuttgart) are used for the repair and maintenance of the land machines owned by the Company, and the one at Holtenau (formerly one of the German Naval Air Service Stations) for seaplanes. One was struck by the equipment of these shops and their size and by the condition of certain of the Junkers metal aircraft that were being overhauled.

Some of them had been in continual service for two years, and it was difficult to believe that they were not "brand new." It was very interesting to see how rapidly one man was able to re-cover the planes of a G.23. A boy held a bar "dolly" inside the tube spars and one man rivetted on the corrugated sheets. There is also a shed devoted to the repair of wooden machines—there were only some Fokker machines in it.

The engine-test sheds on the aerodrome were also very interesting—they were certainly better equipped than one has



TEMPELHOF FLUGHAFEN.—Above, the restaurant. Below, the offices. On right, the wireless masts.

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seen anywhere else. In the shops one saw Junkers and B.M.W. engines (*Bayerische Motoren Werke*)—these and Siemens-Halske are the only German-built engines in existence.

One also saw some Pumas and Eagle VIIIs, all of which have rendered excellent service.

Incidentally everywhere one heard warm tributes paid to the Lion and Jupiter engines. One told them the story, much to their amusement, of the English aircraft manufacturer who, when asked which he preferred—the Jupiter or the Jaguar engine, replied that "it all depended which you liked better—dahlias or chrysanthemums!"

Civil Flying.

Afterwards one was motored across the aerodrome to the German Traffic-Fliers School—to give it is full title—*Deutsche Verkehrsfliegerschule Gesellschaft mit Bischraukter Haftung.*

In parentheses, these German "portmanteau" words remind one of the Limerick :

"There was a young bard of Japan
Who wrote verses that no one could scan.
When they told him 'twas so
He replied, 'Yes, I know;
But - I - always - try - to - get - as - many - words - into - the - last - line - as - I - possibly - can!'"

This Company is jointly owned by the State and the *Luft Hansa,* and exists for the training of civilian pilots for air lines for the latter Company.

The Chairman is one von Willissen, and the Directors are Herren von Gronau, Bölle, Doktor Zeigler and Willk.

Herr von Gronau is responsible for seaplane training and is adjudged one of the best seaplane pilots in Germany. It may be remembered that he won the seaplane contest at Warnemünde last year. He was at one time a Naval Officer in the Naval Air Service, and during the War was First Lieutenant to the Commanding Officer of the Air Units attached to the High Seas Fleet.

Herr Bölle, who is responsible for aeroplane training was (like Richthofen) originally a cavalry officer, and after Bölcke's death commanded his "circus."

Doktor Zeigler is responsible for the technical training—Herr Willk for finance. Both of these gentlemen have distinguished war records.

The Company operates five stations—three land stations at Staaken, Stettin and Schleissheim, and two seaplane stations, one at Warnemünde on the Baltic, and the other at Syllt, an island in the North Sea.

The number of instructors, not including the managers, is twelve, and of pupils, about one hundred and fifty. The course extends over a period of four years (with about two hundred hours in the air) and the experience has so far been that only about one-half complete it.

All the pupils are housed in barracks on the aerodrome, and in the summer time work from sunrise to sunset. The course naturally includes theoretical training in the aerodynamics, design and operation of engines, wireless telegraphy, navigation, practical seamanship and kindred subjects.

Great attention is paid to physical training, and no alcohol is allowed till after the day's work is finished, and then only light beer. Discipline is strict, but pupils are not allowed to refer to the Managers or Instructors by their former Service ranks, as the Directorate do not wish the representatives of the late Allied Forces to have the slightest excuse for regarding it as a camouflaged military training centre,—which it most certainly is not.

The relations between all seemed excellent. The pupils do not wear uniform—the majority wear breeches and bright blue shirts. All wear crash-helmets during the first portion of their flying training and they always wear parachutes when flying. The number of deaths has been remarkably few, only two this year and both from the same cause,—walking into a running propeller.

During the summer months a total of between 1,300 and 1,400 hours a month are flown at all stations. But this drops to about 300 hours a month in the winter, when most of the time is spent on theoretical training.

A Correction.

In a recent number of The Aeroplane a statement appeared that at these Schools the pupils practised formation flying, and the article also spoke of the existence of gun-cameras. One was given every opportunity of seeing everything at two Schools (Staaken and Warnemünde) and can say with confidence that these statements were not correct.

Apart from the fact that these Schools are subject to and liable to International control and inspection, none of the people connected with them that one met are interested, except historically, in war flying. All their efforts are concentrated in producing the best possible civilian pilots.

The Training System.

The School at Staaken (which is managed by Herr Keller with a staff of six instructors) has accommodation for about fifty pupils. It has several permanent sheds with well-equipped workshops, as well as living quarters for the pupils.

These would-be pilots receive their preliminary training in land machines on the Udet biplane (Siemens-Halske 80 b.h.p. radial engine)—a neat two-seater—the Avro of Germany.

From this, they pass on either to the Arado, the Albatros (L.74) or the Heinkel (H.D.22),—all of which are two-seaters, fitted with the 240 b.h.p. B.M.W. engine. Then they go to the Junkers (A.20) monoplane (240 b.h.p. B.M.W. engine).

From this machine they start to learn to fly commercial machines, beginning with the Junkers F.13 and the Fokker F.2, and finally passing out after having flown the Dornier Merkur (600 b.h.p. B.M.W.) and the three-engined Junkers G.23. In addition to this all pupils must learn to fly seaplanes.

The majority of the machines have alternate yellow and blue stripes (to remind them of the sun and sky) painted on the tail planes. Owing to the lack of space in the sheds, two of the three-engined Junkers machines (G.23) are permanently tethered out in the open. One examined them, and, although they had been exposed to all sorts of weather for months, they did not seem to be in the least degree affected.

In the workshops, one was struck by a multiple-duty machine-tool—a lathe, at the back-gear end of which was built a milling and slotting machine. With this machine it is possible to turn, mill, slot and drill all at the same time. This machine, the "Krausco," which is made by Ernst Krausse A.G., Berlin, has been largely used on German aerodromes, where the conditions do not warrant the building of even a small machine shop.

One also noticed that the majority of their air-screws were not attached to the hub by the usual flange bolts. On the flange nearer to the engine there are fixed a number of conical-shaped dowel pins (about one inch long) equally spaced about one inch from the periphery of the flange. These pins engage in holes drilled (through a steel facing-plate) in the air-screw. The end of the hub further away from the engine is threaded to receive the other flange which is itself locked into position with two ring lock-nuts which are themselves finally secured by a split taper pin. By this means it is possible to remove and/or fix an air-screw in a surprisingly short time.

While on the subject of air-screws—on all the Dornier machines one saw, a small electric lamp was built in the nose of the machine, just below the air-screw boss. As soon as the air-screw revolves (no matter how slowly) the lamp lights and shows a strong, white light; this device has effectually prevented casualities caused by unwittingly walking into running air-screws.

Before leaving the aerodrome that evening, one saw a parachute live drop made from a Dornier Merkur machine (the door of the cabin having been removed) with a pack type parachute, and one was introduced to its inventor—Herr Heinecke.

(To be continued.)



PILOTS IN THE MAKING.—A "panoram" view of the pupils' dining room at Staaken.

COASTAL DEFENCE



"Flight" Photo.

"The Hawker 'Horsley' Torpedo Bomber as illustrated is now in production. The machine meets in every respect the exacting requirements of torpedo carrying aircraft and can be considerably overloaded without impairing its efficiency."

THE H. G.

HAWKER ENGINEERING CO., LTD.

KINGSTON. BROOKLANDS.

THE FLIGHT TO POLAND.

On Tuesday, Nov. 15, Mr. R. H. Macintosh (late of Imperial Airways) and Mr. Bert Hinkler (late of A. V. Roe and Co. Ltd.) left Upavon at 1.12 p.m. on a Fokker F.VIIA (Bristol Jupiter engine) with intent to fly non-stop into India, and to beat the present record for a non-stop flight.

No news of their progress was received until the morning of Friday, Nov. 18, some twenty-four hours after their petrol supply should have run out, and then a rumour that they had landed in Poland reached London.

Later news made it clear that they had landed at Bialokrynica (Eastern Galicia) at some time on Wednesday afternoon. On Friday, Nov. 18, they left their landing place apparently intending to return to England, but were compelled to land after covering only some 70 miles. In the course of this landing one side of the undercarriage collapsed, and considerable damage was inflicted on the machine. According to some reports two farmers in the field on which they landed were somewhat severely injured.

Messrs. Macintosh and Hinkler were taken to Lwow, the nearest town, where they remain for the present.

According to a dispatch from Mr. Macintosh published in some of the Sunday papers, they flew in continuous fog and low cloud until they had reached a position, by dead reckoning, in the neighbourhood of Astrakhan. The weather showed no sign of improvement, they decided to turn back towards more civilised regions, and landed at the first possible opportunity at Bialokrynica. Here they were unable to make themselves understood and were detained by the local police until an interpreter arrived on Thursday, when they were released.

FIRST STEPS TO THE SCHNEIDER CONTEST.

During the past week-end representatives of the Royal Aero Club have visited Blackpool, Southport and Morecambe with a view to exploring the possibilities of a course for the contest for the Schneider Trophy next year.

At each of these towns the Club's representatives were received by the Mayor and Members of Council, and the proposals discussed will be considered later by the Royal Aero Club.

Meantime somebody will have to decide whether we shall build any machines for the Contest, or whether we shall be satisfied with modifying our existing machines and boosting our engines a bit more.

WIRELESS CLOUD-SCREENS.

The following letter has been received from Marconi's Wireless Telegraph Co. Ltd. :—

Sir,—In last week's issue of your paper, under the heading of "Croydon Notes" your Croydon correspondent gave comments on a flight made by Mr. Perry, on an Imperial Airways machine, during which a "curious phenomenon" was observed with regard to the wireless results obtained.

In these comments, it is stated :—

1. "The pilot tried to get into wireless touch with the various stations along his route to check his position and course. In this effort he failed completely."

2. "Once when he must have been approximately over Abbeville he got through to that station, which gave him a position on the face of it absurd."

3. "He went down to get below the clouds so that he might pick up his land-fall on this side of the Channel. Immediately he got well into the cloud layer his wireless came into action and he was able to communicate normally with all stations within range."

4. "There is a possibility that this failure to get anything through by wireless when above the clouds was caused by some failure on the part of his own set. The fact that he got through to one station when he must have been very close indeed to that station, and that this station obtained an obviously distorted directional reading, together with the fact that everything came in normally as soon as he got into the clouds suggests another somewhat disturbing possibility."

Paragraph then ensues suggesting a possible explanation of the facts stated in (1) to (4) above, and finally the report states :—

5. "If this is the true explanation it is a somewhat serious affair, for it means that just when a pilot most needs wireless for navigational purposes it may be quite impossible to use it."

One would cordially agree with the latter remark made by your correspondent if the facts were as stated, but since the substance of the report does not represent accurately what happened on the flight in question, we feel it is very necessary to make clear, not only to your correspondent, but all other readers of your newspaper, what actually happened on the flight in question.

We should feel obliged therefore, if you would publish the following in the next issue of your paper, in order to contradict a suggestion that the results obtained in the flight were due to physical conditions, which might indeed be serious, if they actually existed.

The actual facts as reported by the pilot on landing were as follows :—

Between Paris and the French Coast he called up several stations and received only a strong whistle, but on coming down below the clouds at the French Coast he received normal and loud clear speech. He stated his air speed was the same above the clouds as when flying below them. The bearing which he received from Abbeville was actually taken at almost extreme range by Croydon, since Abbeville has no direction-finding receiver, and the bearing taken by Croydon, which naturally at such long range could only be a second-class one, was relayed to the machine by Abbeville. The receiver in the machine was not inefficient or "dead" as one would appear to be given to understand. When the pilot spoke to any station he got only a strong whistle.

From inquiry at the Air Ministry ground station at Croydon, it appears that during the period complained of by Mr. Perry, Rotterdam was working almost continuously to a Fokker, giving that machine a D.F. position, and it is undoubtedly due to the fact that whenever a station replied to Mr. Perry's inquiries they worked at the same time as Rotterdam. Consequently, as is well known, a heterodyne whistle, due to the interference between the two ground stations, would be heard by the pilot in the machine. The fact that he got a relayed bearing from Abbeville would naturally be due to the fact that he was so close to the station, and therefore, the whistle would not interfere. Later on when he came down below the clouds Rotterdam had ceased to work with the Fokker machine, and good communication was then established.

Mr. Perry we think would be the first to acknowledge that he has had very little practical experience of wireless on aircraft, and consequently, he did not appreciate that other stations were working, otherwise, he would have awaited a favourable opportunity to establist communication.

As regards D.F. work over clouds, only a day or two later Mr. Hinchliffe was brought in from Paris to Croydon above the clouds, as also was a Fokker F.VIIa, and it is a well-known fact that the late Mr. F. L. Barnard put up scores of excellent D.F. shows when flying above clouds and fog for lengthy periods. Mr. Hinchliffe himself states that on the D.F. flight mentioned above, not only did he obtain very useful information by R/T above the clouds, but they brought him right over the aerodrome with absolute accuracy by D.F.

Summing up briefly : With regard to :—

1. The pilot did not get into touch with the various French Stations along his route, owing to the fact that Rotterdam was working practically continuously to another machine.

2. He received Abbeville when over that station due to proximity to that station. The position given him having been given by Croydon and not Abbeville.

3. The reason why he got good results below the clouds was perfectly simple, namely, that Rotterdam had ceased working.

4. His failure to get anything through by wireless when above the clouds was not caused by some failure on the part of his own set or by any physical conditions, but by reason of the fact stated above.

5. There is nothing to indicate from the mass of data collected from the very large number of flights carried out during the past years, that clouds can cause any interference whatsoever with wireless communications.

(Sgd.) For Marconi's Wireless Telegraph Co. Ltd.
J. M. Furnival,
Chief of Field and Air Division.

The Aeroplane has to express its appreciation of the promptness with which the Marconi Company has investigated and cleared up the causes of Mr. Perry's failure to make satisfactory communication with ground stations.

The Marconi Company naturally has opportunities denied to The Aeroplane for getting at the real truth of occurrences such as this, and the main reason for dealing with this incident at such length in this paper was to ensure that it should be properly explored.

At the same time the writer wishes to make it clear that the report of this incident, which he received on the day of the occurrence, was such as to suggest that interference by other wireless transmission between aircraft and the ground did not play any part in this particular failure.

The heterodyne whistle effect is one with which even Mr. Perry's short experience with Imperial Airways must have made him fairly familiar. The sound of speech through this whistle would not usually be described as signals so faint that it was only just possible to distinguish that they were speech and not faint Morse signals. And according to the report on which The Aeroplane's note was founded, such faint signals were all that Mr. Perry received, except for the short signal from Abbeville—until he came down at the coast. Had whistling been mentioned at all the note would probably not have been written.

With regard to the false position given to Mr. Perry the writer was under a misapprehension. He certainly did suppose that that position, if it were not based on an Abbeville bearing, was at least based on a bearing taken from some less remote station than Croydon.

Another possibly minor point in connection with this affair is that on this particular trip Mr. Perry appears to have flown over an exceptionally thick, extensive, and unbroken cloudbank. The writer knows very well that wireless signals and accurate wireless bearings have been received on many occasions by aircraft flying above clouds.

If it were possible for clouds to exercise the screening effect that he suggested it would still be reasonable to suppose that this effect might pass almost unnoticed if the cloudbank were of small area, broken at frequent intervals, or relatively thin.

The fact that Mr. Perry's failure to get satisfaction from his wireless on this particular trip when he was flying in conditions which would make the suggested screening most effective naturally lent colour to the idea that that was a possible explanation.—W. H. S.

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THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, W. 1.]

Report for week ending Nov. 20.

Flying Time 18 hr. *Instruction* 8 hr. 15 min. *Soloists* 9 hr. 15 min. *Passengers* 30 min. *Instruction.—With Mr. F. G. M. Sparks*—A. J. Richardson, H. M. Samuelson, E. R. Andrews, C. M. Green, Miss Spooner. *With Mr. S. L. F. St. Barbe*—E. R. Andrews, Rich. Hayes, J. A. Simson, H. J. Greenland, Miss Wilson, R. G. Edkins, A. Fowler. *Soloists.*—R. Sanders-Clarke, W. Roche-Kelly, R. P. Cooper, O. J. Tapper, G. W. Hall, E. C. T. Edwards, H. Solomon, J. J. Hofer, Captain Burt. *Passengers.—With Mr. F. G. M. Sparks*—B. Carey, Miss Gaskell.

Certificates:—Nov. 16, Capt. S. J. Burt, Mr. E. C. T. Edwards, and Mr. H. Solomon all passed for their Aviators' Certificates.

The Lancashire Aero Club.

[Sec.: C. J. Wood, Windsor Bank, Chapel Street, Hyde, Cheshire.]

Report for week ending Nov. 19.

Flying Time 11 hr. 15 min. *Instruction* 6 hr. 45 min. *Soloists* 2 hr. 40 min. *Passengers* 1 hr. 15 min. *Tests* 1 hr. 15 min. *Instruction.—With Mr. Brown*—Messrs. Slater, Hall, Heath, Tweedale, Gort, Davidson, Riley, Allott, Miss Brown and Miss Baerlein. *With Mr. Cantrill*—Mr. Browning. *With Mr. Scholes*—Mr. Fallon. *Soloists (under instruction).*—Mr. Gerrard. *Pilots.*—Messrs. Costa, Gattrell and Rowley. *Passengers.—With Mr. Goodfellow*—Messrs. Mills and Jennison. *With Mr. Cantrill*—Mr. Ramsden. *With Mr. Scholes*—Miss Knott. *With Mr. Lacayo*—Mr. Hartley. *With Mr. Gattrell*—Mrs. Thorpe.

Notes.—In a week of outstanding beastliness in the matter of weather the only point of flying interest was that Mr. Costa joined Mr. Twemlow in completing his 20 hrs. as an A License pilot this (Air Ministry agreement) year.

On the ground, however, even Mr. Caldecott's quiet composure has been shaken by the long-promised-and-almost-despaired-of publication of "Pilots' 'A' License," by J. F. Leeming. One can pay this little volume no higher compliment than to compare it with "How to Fly," written by Monsieur Voisin many years ago. One read the latter at the age of 10 or so and laid it down, feeling that if only an aeroplane were handy one would take it up at once. Even so with Mr. Leeming's book—after reading it one feels ready to requalify for one's A License almost, if ever such a horrible necessity should arise!

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Nov. 20.

Flying Time 8 hr. *Instruction* 3 hr. 45 min. *Soloists* 1 hr. 20 min. *"A" Pilots* 30 min. *Passengers* 2 hr. 25 min. *Instruction.—With Mr. Parkinson*—Miss Rambaut, Messrs. Irving, Griffiths, Horn, L. W. Heaton, R. J. Dickinson, Phillips, and Dr. Alderson. *Soloists.*—Mr. J. S. Robertson. *"A" Pilots.*—Mr. D. Wilson. *Passengers.—With Mr. Parkinson*—Mrs. Rambaut, Mr. Murrell and Capt. Lamplugh.

Notes.—Mr. J. S. Robertson attempted his height tests on Tuesday. He left the ground in reasonably good weather, but before he had reached 5,000 ft. a bank of mist suddenly blotted out the landscape. He very wisely followed a gap in the mist and came down low. Being unable to distinguish anything he could see he landed in a field to inquire his whereabouts and learnt that he was some 25 miles from Cramlington. He took off and reached Cramlington safely. He completed the tests successfully on Wednesday.

LX was rather badly damaged by fire while in the hangar on Thursday, so only one machine will be on service for a time. Capt. Lamplugh, who visited the aerodrome on Saturday in connection with this mishap, flew to Sherburn with Mr. Parkinson after doing his inspection.

The Club Dance, held on Friday, proved to be a complete social success, and the balance sheet will be on the right side.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Nov. 12.

Flying Time 12 hr. 22 min. *Instruction.—With Mr. McDonough*—N. Crane, W. Lane, J. Brewin, E. Darlington, H. Duckitt, G. Robson. *Soloists.*—R. Bednell, E. J. Brighton, R. L. Jackson, H. J. Willis, H. H. Smith, G. G. Savage, J. Brinton. *Passenger.—With Mr. Jackson*—H. J. Wynn. *With Mr. Brighton*—Mr. Katri.

Report for week ending Nov. 19.

Flying Time 10 hr. 15 min. *Instruction.—With Mr. McDonough*—J. Brewin, H. Lattey, R. Darlington, G. Robson, G. Brinton, A. Ellison, S. Duckitt. *Soloists.*—C. Fellowes, W. Swann, E. J. Brighton, G. Brinton, E. King.

The Hampshire Aeroplane Club.

[Sec.: H. J. Harrington, Hamble Aerodrome, Southampton.]

Report for week ending Nov. 20.

Flying Time 7 hr. *Instruction* 3 hr. 40 min. *Soloists* 2 hr. 45 min. *Tests* 35 min. *Instruction.—With Flt. Lt. Thomson*—Mrs. Aitken Dick, Lt.-Cdr. Evans Penman, R.N., Lt. Mandeville, R.N., Capt. Kirby, M.M., Mr. Hall, Mr. Lowe-Wylde and Mr. Courtney. *Soloists.*—Miss Hume, Don Juan de la Cierva, Mr. Cripps, Mr. Stephen Fry and Mr. Stanford.

Notes.—Terrible weather on Thursday, Friday, Saturday and Sunday prevented us from doing much flying this week. However, we had a companion in misfortune in Sir Alan Cobham, who arrived at Hamble on Thursday afternoon in his Short "Singapore," and was weather-bound until Sunday morning. The first persons to greet him and give him assistance on his arrival were two members of this Club, Capt. Kirby and D. A. R. Cripps, who went out to him in Capt. Kirby's auxiliary yacht *Shubra*.

We are pleased to be able to announce that Mr. H. J. Harrington has been appointed Secretary to this Club. Mr. Harrington has had a great deal of experience of club secretaryship, having been for sixteen years with the Old Lyonian Club at Harrow. He served with the Honourable Artillery Company on active service in Belgium, France and Italy, and at the end of the War was engaged upon a special job at G.H.Q., Italy. From our short knowledge of him, we are convinced that he will do everything in his power to help members and further the interests of the Club.

Another announcement which it gives us great pleasure to make is that we have now placed an order with Messrs. A. V. Roe and Co. for a Mark II Avian, and hope to get delivery in about four weeks

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Nov. 20.

Flying Time 3 hr. 30 min. *Instruction.—With Mr. Lines*—Messrs. G. F. Surtees, J. Morse, R. Potter, H. Mack. *Soloists.*—W. P. Cubitt, F. Gough. *Passengers.*—A. Bagshaw.

Persistent bad weather has brought flying to a complete standstill.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Nov. 20.

Flying Time 3 hr. 45 min. *Instruction.—With Mr. Lowdell*—Miss S. Edwards, Dr. Sleigh, H. Billington, S. Schofield, G. Hutley, K. Peck, R. Brown. *Passengers—With Mr. Lowdell*—F. Jolly, C. Hanson. *With Mr. C. N. Prentice*—Mrs. Courtney Prentice. *Soloists.*—Dr. Jas. Sleigh, Mr. S. Schofield, C. N. Prentice.

Notes.—Dr. Jas. Sleigh, our Chairman, was launched solo this week and put up an excellent show. Lady Bailey again visited us on Sunday. The weather was appalling, thick fog and rain, it was impossible for her to fly down so she very sportingly came by road.

Weather conditions this week have been absolutely dud, hence our few flying hours, typical East Coast weather, gales, rain, fog, wind, sleet and snow.

The Bristol and Wessex Aeroplane Club Ltd.

[Sec.: Lt.-Col. G. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Nov. 19.

Flying Time 23 hr. 30 min. *Instruction* 8 hr. 55 min. *Soloists* 9 hr. *Passengers* 5 hr. 35 min. *Instruction.—With Mr. E. B. W. Bartlett*—Messrs. A. E. Arnold, M. L. Alexander, T. H. Clarke, C. R. Greenhi. *Soloists (under instruction).*—The Hon. H. C. H. Bathurst, C. H. Brewer, A. H. Downes-Shaw, R. A. Hall, J. H. Robert, C. E. Pitman, S. K. Jopp. *Passengers.—With Mr. Tratman*—Miss Castle, Miss Neuth, Messrs. G. Pitman, Wallace, Sly. *With Mr. Bartlett*—Mr. Thriepland and Hon. H. C. H. Bathurst.

Notes.—Messrs. Brewer and Roberts did their first solos. All the flying was done during the early part of the week and everything pointed to a record in flying hours; we were, however, doomed to disappointment by bad weather on Friday and Saturday.

The Club offer their congratulations to Messrs. Macintosh (member) and Bert Hinkler on their splendid performance and sympathise with them in that they were prevented from reaching their objective, also to our friends on the other side of the aerodrome on the fine performance of the Jupiter engine under such trying conditions of snow and sleet.

The East Kent Flying Club.

[Hon. Organising Sec.: R. Dallas Brett, 114, High Street, Hythe.]

The Promoters of the East Kent Flying Club have great pleasure in announcing that their scheme has now been officially approved by the Government. The financial assistance will date as from Jan. 1, 1928.

This ensures that the Club will have sufficient income to keep working; provided that it works hard. It is left however to the Promoters to start the Club and to provide the equipment. Once started the Government will help to keep it going but the initial effort must be made by private enterprise.

In view of the fact that the Air Ministry is providing accommodation at Lympne Air Port at a nominal rent the first requirement is an aeroplane. This costs £730. Then the machine must be insured and provided with spare parts, and provision must be made for the salaries of the aerodrome staff. These are the main initial requirements. It has been calculated that £1,000 must be raised to enable these difficulties to be overcome.

It is proposed to float a limited Company, and for the Company to conduct the Club business, and it may issue fully paid shares in return for donations with a view to giving the donors an interest in the Club management.

A meeting of those members who intimated their readiness to join is fixed for 8 o'clock at the Town Hall, Hythe, on Wednesday next, Nov. 23, and the Promoters will be glad to welcome at that meeting any persons willing to join or assist the scheme financially.

The Scottish Flying Club.

On Nov. 18 a public meeting, convened by the Lord Provost, was held in the City Chambers, Glasgow, in support of the recently-formed Scottish Flying Club. The speakers included Air Vice-Marshal Sir Sefton Brancker, and Lord Weir of Eastwood.

The Lord Provost said that it was essential that encouragement should be given to the efforts that were being made to popularise aviation. The Scottish Flying Club had been approved by the Air Council as an organisation which would operate in Scotland the Air Ministry's subsidy scheme for Light Aeroplane Clubs. He remarked that the first Scottish air meeting was held in the Glasgow district [Is Lanark exactly in the Glasgow District?—C. G. G.] and it would therefore be strange if the Scottish Flying Club did not receive the most hearty support of the city.

Lord Weir, in proposing a resolution commending the Club to the generous consideration of the citizens of Glasgow and the West of Scotland, said that they appealed for a sum of not less than £3,700 to complete the Establishment Fund of £5,000, of which £1,300 had already been subsribed.

He related how when he had been asked to become president he said he would consent subject to one condition—that they must convince him that they could command the support of at least 40 flying members. Within fourteen days he was shown a list of applications from over 60 flying members, a number which has now risen to over 120.

Sir Sefton Brancker in seconding the resolution referred to the effect which the introduction of aviation had had on the British Empire. So far as finance was concerned he advised the Scottish Flying Club to keep clear of Government assistance as far as possible. He hoped that they would regard the money which the Air Ministry was going to give them as an unpleasant charity; something to be



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Remember that Capt. H. S. Broad and Lady Bailey, who established World's Light Aeroplane Height and Speed Records, also used—

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got rid of as soon as possible. If, however, they helped themselves, they could depend on the Ministry helping them.

Mr. H. R. Murray-Phillipson, of Stobo, supporting the motion, spoke of the progress of the English Clubs and considered it an indignity to Scotland that they only had one club and hoped that within a few years clubs might be established in every centre of Scotland, such as Aberdeen, Dundee, and Perth.

In proposing a vote of thanks to Sir Sefton Brancker, Mr. Harold E. Yarrow announced that flying operations would begin on Dec. 3.

Mr. J. Allison, Jun., announced that he and Sir Hugh Reid, as joint trustees of the Scottish Aeronautical Society, now dissolved, had decided that the residue of the funds of that society could not be better applied than by handing it over to the Scottish Flying Club.

Among other donations received are the following :—Air Commodore J. G. Weir, £500; Lord Weir, £300; Sir John T. Cargill, Bt., £100; Mr. D. J. C. M'Cowan, £100, and Sir Harry M'Gowan, £50.

The Aero Club of South Africa.

Cape Town Section :—The Avro Avian (Cirrus) presented by the Shell Co. arrived in October, and, in spite of many days of high winds, when it was nursed carefully in its shed for fear of damage on the ground, a good deal of flying has been done.

Three ex-pilots have got their "A" Licenses, and two of them have been passed out as Instructors by Lieut. Bentley (S.A.A.F.). most appropriately, for this bi-lingual country, their names are Black and Swartz.

Some five other ex-pilots are well on their way to their licenses, and various *ab initio* pupils have begun training.

The Cape people are still backward-minded. Alone of the South African Clubs the Cape Club has not yet managed to get any real financial support locally, despite the Shell Co.'s handsome lead.

Lieut.-Col. Henderson, of Brooklands fame, has arrived, and his example may shake up the local people. He will have hard work to make his show pay. But competition is always good for trade.

The Canadian Clubs.

The Canadian Air Board has announced that inquiries have been received from fifteen cities which are desirous of forming Flying Clubs under the recently announced Government scheme. These requests for information have been received from all parts of Canada and Clubs have already been formed in Montreal, Edmonton, Ottawa and Regina.

The Montreal Light Aeroplane Club has been incorporated with an initial membership of over one hundred. An aerodrome, to be constructed by the Government at St. Hubert, on the south side of the St. Lawrence, will be placed at the disposal of the Club.

The following charges have been fixed : Flying members : Entrance fee, $25, Annual subscription, $25. Non-flying members : Entrance fee, $10; Annual subscription, $15. Flying charges : $5 per hour for dual instruction, solo flying and hire by non-flying members.

The following officers have been elected :—President : W. S. Lighthall; Vice-President : L. G. St. Jean; Hon. Secretary : E. F. Peacock; and Hon. Treasurer : M. Peiler.

A Club is in process of formation in Toronto and a private citizen has granted a piece of land to the Toronto Aeronautical Association for use as an aerodrome.

An Aero Club has been incorprated in Victoria, B.C., and this Club has obtained an eighty-acre aerodrome and the provisional promise of two Moths from the Canadian Government.

AN AID TO ASPIRANT AVIATORS.

Mr. John F. Leeming of the Lancashire Aero Club, to whom all Flying Clubs are already indebted for much good work on behalf of Club aviators and private owners, has conferred a further benefit on the Aeronautical Community by producing a little handbook entitled simply "Pilots' 'A' Licence."

Mr. Leeming says that, as one of the Royal Aero Club official observers of tests for official licences, he has become so tired of answering the same questions so many times every year as to what an aspirant aviator has to do to become the proud possessor of a ticket, that he has compiled a booklet giving all the information required and expressing in simple language just what anyone must do in order to get a pilot's licence.

One judges that Mr. Leeming must have been at work on the book for some considerable time, for on the fly-leaf he publishes an "Acknowledgment" which reads as follows :—"The writer wishes to thank certain friends without whose advice, criticism, and assistance this book would have been published months ago." One has many friends of a similar nature, and one always feels grateful to them for saving one from pitfalls and mistakes even at the expense of suspended publication.

The booklet is written in simple language and is printed in singularly pleasing type, so that those in search of knowledge will find it particularly easy to read.

It gives all the information that the would-be aviator could possibly want. It gives the tests required for a Royal Aero Club certificate and for an Air Ministry "A" licence. It tells precisely what is needed to qualify and the processes of correspondence with the Club and Air Ministry authorities.

Under the heading "Technical Examination," it gives essential extracts from the statutory rules which a pilot must know before he can be let loose with an "A" licence. These rules include lighting, signals, air traffic rules and the general principles of air navigation. It also tells what the owner-pilot ought to know about certificates of airworthiness and competency and about navigation over foreign territories, and the rules to be observed on departure, on landing and when on the way.

By way of indicating to the pilot how much he must know, the third chapter of the booklet consists of a series of questions which a pilot must be able to answer before it is safe for him to venture abroad.

Finally, it gives some general notes on the renewal of licences and on that valuable official publication "The Air Pilot" and "Notices to Airmen."

Copies of the book can be had post free from the Book Department of The Aeroplane, 14, Bream's Buildings, E.C.4, at 2s. each.

A BLUEBIRD TOUR.

Following on the recent demonstration of the new Blackburn Bluebird, Mark II. (65 h.p. Armstrong-Siddeley Genet engine), at Croydon by Mr. Charles Blackburn and Mr. Blake, a tour of England and Scotland will now be undertaken. The tour will be so arranged as to embrace every one of the existing and proposed Light Aeroplane Clubs.

Leaving Brough, the Blackburn aerodrome, on Nov. 23 the Bluebird will call at the following places in rotation :—Hadleigh (Suffolk Club), Martlesham Heath, Lympne (East Kent Club), Tunbridge Wells (Kent and East Sussex Club), Hamble (Hampshire Club), Stag Lane (London Club), Croydon (three days' stay), Sherburn (Yorkshire Club), Middlesbrough (Tees-side Club), Renfrew (Scottish Club), Manchester (Lancashire Club), Liverpool (Liverpool Club), Bristol (Bristol and Wessex Club), Castle Bromwich (Midland Club), Coventry, Norwich (Norfolk and Norwich Club), Wittering (Central Flying School), Nottingham (Nottingham Club), and Brough.

Anybody who is likely to be interested in the tour or who is desirous of examining the Bluebird is requested to communicate with Mr. Charles Blackburn, simply addressing the letter "Monomark BM/BRBF., London, W.C.1."

WESTLAND ACTIVITIES.

The Westland Wapiti (Bristol Jupiter engine) is now in production for the R.A.F. as one of the chosen General Purposes Aircraft to replace the D.H.9a, and machines should be passing out for test soon after Christmas.

The Westland Widgeon III is also now a production job, and a number are on order to go abroad.

Brockway Motors Ltd., of Sydney, N.S.W., who are big automobile distributors, have bought a Widgeon for demonstration purposes, and they hope to settle down to making the light aeroplane business a definite branch alongside their motor trade. A cable has been received from them saying that the machine has arrived and has been flown, and that they are very pleased with it.

The Port Elizabeth Aero Club in South Africa has ordered a Widgeon, and this machine is now being packed ready for despatch.

Another Widgeon has been acquired by the Light Aeroplane Flying School in Buenos Aires, which is run by Mr. T. K. Breakell, formerly a joy-ride pilot with the Southern Counties Flying Co., and previously with Mr. Sydney Cotton, in Newfoundland. The machine will shortly be in operation there.

A WIDGEON TOUR.

Between Nov. 9-12 Sir Sefton Brancker made a tour of Eastern England in a Westland Widgeon piloted by Mr. Louis Paget.

They left Hendon on Nov. 9 and flew to Duxford to enable Sir Sefton to deliver a lecture that night to the Cambridge Aeronautical Society on the subject of "Air Routes and Transport."

On Nov. 10 they left Duxford in the morning and flew to Norwich in extremely cold weather, there being 8 degrees of frost at Duxford and several snowstorms en route.

After half-an-hour's stay at Norwich they took off in a blizzard for Hucknall. Bad weather persisted to King's Lynn, when it gradually cleared and the sun came out. Passing over Melton Mowbray they got a bird's-eye view of the Quorn in full cry,—which was the only interesting incident of a very cold journey.

After lunch with Sir Alfred Ball in Nottingham they left Hucknall for Sherburn-in-Elmet to enable Sir Sefton to deliver a lecture in Leeds that night.

The whole of Friday Mr. Louis Paget gave a series of demonstrations and passenger flights to members of the Yorkshire Club, who were very impressed with the appearance and performance of the Widgeon.

On Saturday, Nov. 12, they returned to London, flying from Sherburn to Hendon, a distance of 197 miles, in one hour forty minutes.

ABOUT WIDGEONS.

The Westland Aircraft Works of Yeovil, Somerset, have just produced a very interesting pamphlet on the Widgeon. This should be in the hands of everybody who is interested in light aeroplanes.

The Widgeon is recognised as being the fastest light aeroplane in the World, barring specially-built racing machines, and, being a parasol monoplane, it gives both the pilot and passenger a view which is naturally impossible to give in a biplane. These points naturally appeal to quite a number of buyers of light aeroplanes, and so give the machine special claim to attention.

The pamphlet gives a full specification of the machine and details of construction. There is a particularly interesting picture of the system of engine mounting besides general views of the machine. Readers of The Aeroplane can have the pamplet free on application to the Westland Company at Yeovil.

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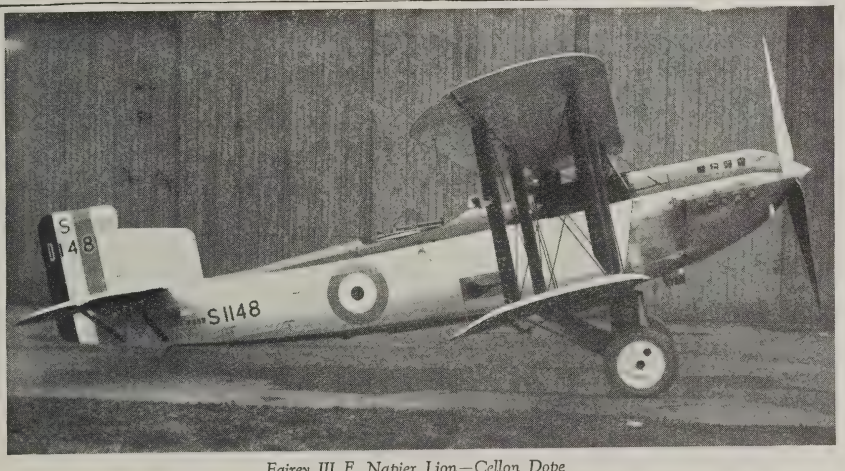
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C33-31

COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 12; Tuesday, 14; Wednesday, 15; Thursday, 8; Friday, 16; Saturday, 13; Sunday, 1.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 33, passengers 193, freight 12 tons.

AIR UNION:
Paris—London: Machines 17, passengers 65, freight 10½ tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 10, passengers 27, freight 3¼ tons.

SABENA:
Brussels—London: Machines 8, passengers 10.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 10, passengers 9.

PRIVATE:
Machines 1, passengers 0.

Total number of trips by British Machines, 34, carrying 193 passengers. Foreign Machines, 45, carrying 111 passengers.

COMPARATIVE FIGURES.

Week ending Nov. 20.
Machines, 79; Passengers, 304; Crews, 144; Total personnel, 448.
Corresponding week, 1926:
Machines, 50; Passengers, 133; Crews, 65; Total personnel, 198.
Corresponding week, 1925:
Machines, 43; Passengers, 111; Crews, 52; Total personnel, 163.
Corresponding week, 1924:
Machines, 61; Passengers, 134; Crews, 76; Total personnel, 210.
Corresponding week, 1923:
Machines, 31; Passengers, 57; Crews, 49; Total personnel, 106.
Corresponding week, 1922:
Machines, 65; Passengers, 151; Crews, 121; Total personnel, 272.
Corresponding week, 1921:
Machines, 44; Passengers, 87; Crews, 71; Total personnel, 158.
Corresponding week, 1920:
Machines, 47; Passengers, 85; Crews, 57; Total personnel, 142.

Croydon Notes.

The fog and low cloud which—according to reports from Messrs. Macintosh and Hinkler—seem to have covered everything east of Britain for some 1,500 miles during the middle of this week have interfered very considerably with Air Traffic. The trouble has been most acute to the East and has not affected the London-Paris service so badly as it has the services to Belgium, Holland and Germany. Even London-Paris has suffered fairly severely, and on only two days did the 8.0 a.m. "second-class" machine for Paris leave at anything like its appointed time.

Thursday was particularly bad, and on that day nothing was able to get through except on the London-Paris line. The morning K.L.M. machine left, landed at St. Inglevert to wait for clear sky, but had eventually to return to Croydon, so that a machine should be available for Friday's outward trip.

A letter from the Marconi Company, which appears in another column, seems to explain the cause of Mr. Perry's failure to get any satisfaction from his wireless set, as described in these notes a fortnight ago.

The cause in this particular case is said to have been interference caused by continuous transmission between a Dutch station and a Dutch aeroplane during the time Mr. Perry was trying to get through.

This is satisfactory in so far as it removes one apprehension as to the reliability of wireless for navigational purposes; but after all the fact remains that Mr. Perry did not get what he wanted from his wireless. During periods of thick weather such as we are now experiencing everybody who is in the air and has wireless naturally has to make use of it for the purpose of getting bearings and positions whenever possible.

Under these conditions and with the present arrangements this leads almost inevitably to a certain amount of interference. But there is far too much interference just now. Certain pilots of certain lines undoubtedly seem to spend far more time than is necessary in talking through their wireless, and thus make it difficult, if not impossible, for others to get necessary information. Something might perhaps be done to cut down this undesirable verbosity, though it is a little hard on a miserable pilot in really bad weather to limit his freedom of communication with the ground.

It looks as though a wider band of wave-lengths than is now used for aircraft wireless was necessary, together with arrangements which would allow a ground station to communicate, on different wave lengths, with more than one aircraft without producing heterodyne whistle and such distressing effects.

Quite how the unhappy pilots nowadays disentangle anything at all from their wireless is distinctly puzzling to anyone who has heard the ethereal noises on the aircraft wave-length band on a ground receiving set.

Lord Carbery's Fokker Universal, which came to Croydon from Stag Lane early this week, and departed for South Africa on Friday, was examined with great interest by the *habitués* of the London Terminal Aerodrome. The general opinion, here as elsewhere, was that it is a remarkably attractive machine. The detail finish of the Fokker was not considered to be up to British standards, but the simple and robust construction and the excellent load-carrying capacity were generally admired.—W. H. S.

Imperial Airways' Accounts.

The report of the Directors of Imperial Airways for the third year of operation, ending Mar. 31, 1927, together with the accounts for that period, were issued on Nov. 21, and will undoubtedly be received with pleasure by all the shareholders.

The result of the past year's working shows for the first time a net profit. After allowing for depreciation and obsolescence of aircraft, engines, plant and so forth, this net profit amounts to £11,461.

The corresponding result for the previous year was a loss of £20,414, and consequently the over-all improvement in the last year's working amounts to more than £30,000.

The Directors state that this result is entirely due to improved results on the European services as the first three months of the Middle East service have brought only a negligible profit into the present accounts, though the financial results of that service are so far satisfactory.

Traffic on the European services in the year in question increased by 26% over that of the previous year and the trading revenue from that traffic increased by 39%. At the same time the total costs of operation, "equated to a common basis of capacity and horse-power," has fallen by 21%.

The accounts are in a form which give very little detailed information. Actual revenue and actual operating costs are not shown. The difference between these two items—a balance of £54,313—in the balance-sheet alone indicates the results of the actual operations. To this balance a further sum of approximately £4,000 derived from interest on investment, bank interest and transfer fees brings the total of the credit side of the balance-sheet to £58,600.

On the other side, Directors' fees account for £2,875. Insurance cost £8,078. £31,793 is placed to reserve against obsolescence of aircraft and engines. £2,902 is written off for depreciation of premises, plant, vehicles and furniture. And £1,490 is written off the costs of surveying and starting work on the Middle East route, leaving a net balance as already mentioned of £11,461.

Although this small net profit would have been transformed into a very serious loss had it not been for the subsidy received from H.M. Government, the results of the year's working are distinctly encouraging. The most important causes for satisfaction are the fall in rate of operating costs of 21% and the increase in traffic by 26%.

All available evidence points to an even greater increase in the current year's traffic, and operating costs may be expected to fall, if not at quite the same rate, at least appreciably.

Though the Middle East route is still unable to run through to India, there is good reason to believe that in the coming year it will provide a substantial increase in the net profits.—W. H. S.

K.L.M. PROGRESS.

The Air Ministry states in its Résumé of Commercial Information, on the authority of the Dutch Press, that during the first six months of 1927 the Air traffic carried by the K.L.M. services had increased to a very marked extent compared with the traffic in the same period of 1926. This increase is said to amount to 25 per cent. in passen-

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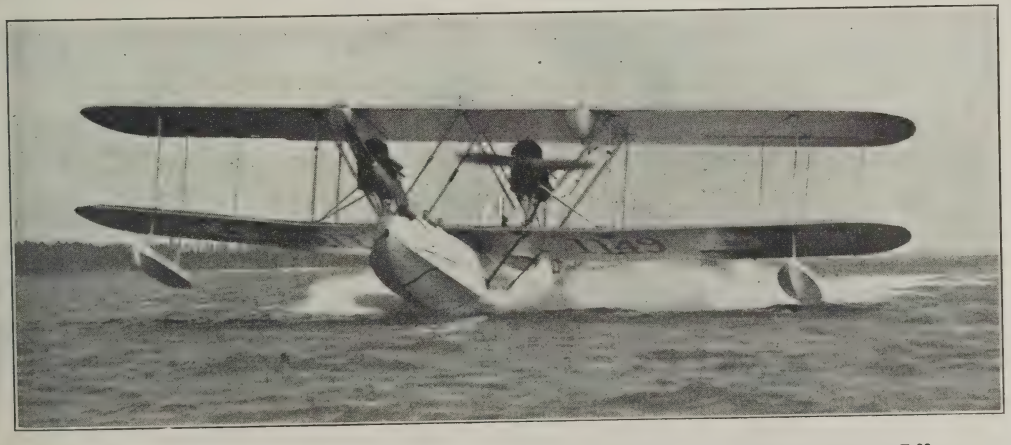
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THE METAL CONSTRUCTED "SOUTHAMPTON"

Four metal constructed "SOUTHAMPTON" Flying Boats, fitted with Napier Lion Engines, to the order of the Air Ministry, are being used to carry out as self-contained units the Far East Flight, embracing an Empire tour of 25,000 miles. These machines are built of duralumin with stainless steel fittings, eliminating both rust and corrosion. Weight saved as compared with wooden hull, 500 lbs. Due to absence of water soakage, there is a further saving of 400 lbs.

THE SUPERMARINE AVIATION WORKS, LTD.

gers, 400 per cent. in mails, and 200 per cent. in parcel-post. Goods traffic has, however, remained practically unchanged.

Between July 31 and Aug. 8, 1927, the K.L.M. ran 875 pleasure trips from Waalhaven Aerodrome, as against 850 such trips during the whole of 1926, and there is a feeling that the very reliable and safe services operated by this company, combined with the effect of its successful flights to the Dutch East Indies, is greatly increasing the general faith of the Dutch Public in the value of air communications.

SUPPORTING HOME INDUSTRY.

A/B Flygindustri, of Malmö, who build Junkers aircraft under licence in Sweden, have been informed by the Swedish Air Force that no more Swedish orders for military aircraft can be placed with them because the firm depends on foreign supplies of the light alloys used in constructing these machines.

Unless arrangements can be made to produce the necessary light alloys in Sweden A/B Flygindustri will be compelled partially to close down its works and dismiss a considerable number of employees.

CANADIAN AIR TRANSPORT.

Western Canada Airways, one of the most efficient commercial aircraft operators in Canada, used three machines during the past season on an air service from Sioux Lookout to the Red Lake area in Central and Northern Manitoba.

Between Dec. 27, 1926, and Aug. 31, 1927, over 1,000 passengers and 200,000 lbs. of express were carried. The most outstanding accomplishment was the transport of eight tons of machinery, dynamite and men from Cache Lake, the Hudson's Bay Railway railhead, to Fort Churchill under the worst weather conditions during March and April.

Arrangements have been made to operate two machines at the Pas, on the Hudson's Bay Railway, in Northern Manitoba.

Their first equipment consisted of Fokker Universal monoplanes (Wright Whirlwind engines), and they have recently ordered two Fairchild monoplanes (Wright Whirlwind engines), and one D.H. Moth.

Air services to the mining fields proved very popular, and the company was in the unfortunate position of having more business offered them than they could possibly handle.

CANADIAN AIRCRAFT PRODUCTION.

Canadian Vickers Ltd., of Montreal, Que., the only self-contained aircraft factory in the British Empire outside Great Britain, is at present fully occupied in aircraft construction. A year ago a new shop was added to their plant, and in order to cope with the present production a further building is to be built

Of 32 machines in course of construction twelve are part of the R.C.A.F. special programme of 26 new machines. These are Avro training landplanes for use at Camp Borden. Other machines under construction are eight Vedette three-seater flying-boats, two Varuna seven-seater twin-engined flying-boats, one Vista single-seater flying-boat, one Vigil single-seat forestry patrol landplane, and one Velos twin-engined photographic land or seaplane.

All the machines were described and illustrated in The Aeroplane for May 11, 1927. Since that date, however, it has been decided to fit two 425 h.p. Pratt and Whitney Wasp engines in place of the two 180 h.p. Siddeley Lynx engines to the Velos.

WAKEFIELDS IN CANADA.

In the course of a business trip across Canada Mr. Charles D. Browne, Canadian manager of C. C. Wakefield and Co. Ltd., of "Castrol" fame, flew from Vancouver to Victoria and back in a D.H. Moth seaplane owned by Dominion Airways.

Mr. Browne opened the Canadian branch in Toronto in July, 1926, and has in the intervening time established branches throughout Canada. For the purpose of visiting these, and for the added reason that he wished to come into contact with the actual users, he made his Canadian tour. Finding that time was limited, and wishing to visit Victoria, he accepted the offer of the flight from Capt. E. C. W. Dobbin, of Dominion Airways. The flight from Vancouver to Victoria took fifty minutes.

Capt. Dobbin has been engaged during the past Summer on fire patrol work for the Forestry Department in the interior of British Columbia. For the Winter season he will devote his attention to general commercial flying, school and taxi-work, with headquarters at Victoria, B.C.

DANCEWORTHINESS.

A private subscription dance is being given by Mr. R. J. Goodman Crouch and the members of the Airworthiness Department of the Air Ministry on Friday next at the Royal Artillery Theatre, Gun Hill, Wellington Avenue, Aldershot, from 9 p.m. until 2 a.m. Single tickets, which cost 10s. 6d., and include supper, can be obtained from the Hon. Dance Secretary, Redlands, Farnborough Road, S. Farnborough, Hants, or else at the door of the theatre during the dance.

The Airworthiness Dance is always one of the most representative gatherings of the Aircraft Industry, and a bomb dropped in the midst would practically wipe out the aeronautical community of Great Britain. [This is not a hint to the Bolshies of the Trade.]

One understands that Mr. Crouch is insisting on dance-worthiness certificates, which looks as though there should be work for the handicapping committee and their curves.

G. D.

PERSONAL NOTICES.

Deaths.

CONLON.—On Nov. 19, at Shaibah, 'Iraq, as the result of a flying accident, AC. Patrick Conlon, R.A.F.

COLE.—On Nov. 19, at Shaibah, 'Iraq, as the result of a flying accident, Sjt. Arthur Alfred Cole, R.A.F.

Marriages.

BROWNE—WREFORD.—On Oct. 21, at St. John's Cathedral, Hong Kong, Flt. Lt. James Stark Browne, A.F.C., younger son of Mr. and Mrs. J. Stark Browne, of London (late of Ealing), to Margery Wreford, only daughter of Mr. and Mrs. H. F. Wreford, of "Southcott," Caterham Valley, Surrey.

DAVIS—BINGHAM.—On Nov. 5, at the English Church, Nakuru, Kenya Colony, Capt. Eric Renn Davis, late R.A.F., younger son of the late E. H. Davis, Esq., of Birr, Ireland, and of Mrs. Davis, of Wadhurst, Sussex, to Norah Alexandrina, youngest daughter of Lt.-Col. D. A. Bingham, D.S.O., of Devizes, Wilts.

POWNALL—SAVILL.—At Ealing, on Nov. 16, Flt. Lt. Charles H. Pownall, only son of the late Mr. and Mrs. T. J. Pownall, of Mostyn, N. Wales, to Vera Kathleen, daughter of the late Spencer E. Savill and of Mrs. Savill, late of Ailsa, Wendover, Bucks.

Forthcoming Marriages.

DAVIS—VAN DER GOES.—A marriage has been arranged, and will take place in London in February next, between Flt. Lt. E. P. M. Davis, A.F.C., A.M., son of Admiral E. H. M. Davis, C.M.G., O.B.E., and Mrs. Davis, of Bexhill, and Freda, daughter of the Jonkheer A. van der Goes, Netherlands Minister in Rome, and Madame van der Goes.

UNMACK—JONES.—The engagement is announced of Edward West Unmack, D.F.C., elder son of the Rev. E. C. Unmack, D.D., and Mrs. Unmack, of West Horsley, Surrey, to Alice Marian, only daughter of Mr. and Mrs. C. Walter Jones, Ellesmere House, Eccles.

MILNE—WHITTA.—The engagement is announced between Flt. Lt. Robert Ernest Martin Braben Milne, R.A.F., eldest son of Mrs. E. R. B. Milne, of O'Fids, Cromer, Norfolk, and Odette Marie Louise, youngest daughter of Mr. and Mrs. G. Whitta, of Brandon, Suffolk.

Birth.

BUSTEED.—On Nov. 16, at Cairo, to Edith (*née* Parkinson), the wife of J. W. Busteed, R.A.F.—a son.



THE AEROPLANE

INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Grey

Vol. XXXIII. No. 22. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper.

"TRIBUTE TO WHOM TRIBUTE IS DUE."

(Romans XIII. 7.)



PEACEFUL PURSUITS:—Curtiss Hawk (P-1B) single-seat fighters of No. 1 Pursuit Group, U.S. Air Corps, taking off from Selfridge Field, Mount Clemens, Mich., *en route* for Dayton, Ohio, where they took part in the dedication of the new Air Corps Experimental Station, at Wright Field.



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THE AEROPLANE

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VOL. XXXIII. No. 22.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON GETTING A MOVE ON.

Some people in this country may still remember, amid the whirl of later happenings, that a little over two months ago a Supermarine monoplane with a Napier engine piloted by Flt. Lt. Webster, R.A.F., won a contest for an object called the Schneider Trophy—it is vulgarly called the Schneider Cup, but that is by the way.

Some more people may remember that "we"—meaning England, Scotland, Wales and the North of Ireland—won the Schneider Cup, having forgotten all the other details.

Some fewer people may remember that "we," or the Supermarine-Napier, put up a speed which meant that on the straights the machine was travelling at over 300 miles an hour, and so was the fastest vehicle which has ever conveyed a human being in this World.

Some fewer people still may remember that when *we* got *our* machine home *we* were going to do over 300 miles an hour, officially timed, and so prove beyond argument that *we* have got the World's Speed Record, and that there is no doubt that *we* won the Trophy on sheer merit and not merely because all the engines of *our* gallant opponents broke down

That, as aforesaid, was over two months ago. And still nobody has reached that coveted 300 miles an hour. Our sporting competitors, the Italians, have tried several times. But they have just not done it. And *we* who know that we have at least three machines, and probably four (two Supermarines and two Glosters) which can do the speed, have not tried to do it? Why?

Record or Trophy?

Think it over. Which is best worth having as a permanent advertisement,—the winning of the Schneider Trophy or the credit of having been the first to beat 300 miles an hour?

Ask anybody concerned with aviation who won the Gordon-Bennett Cup, or the Deutsch Cup, or the Schneider Trophy or the Pulitzer Trophy in any given year and he will probably be unable to tell you, unless he happens to be an aeronautical Datas. But ask who first beat two miles a minute for an hour, and anybody who knows anything of aviation will say, "Prevost on a Deperdussin." Ask what machine first beat four miles a minute and most people will say "A Curtiss."

These round figures for speed stick in the memory better than do the winning of races, or speed contests. More people remember the Bernard-Hubert "Ferbois" as the holder of the World's Speed Record for nearly three years than ever remember the Nieuport as winning the last Gordon-Bennett Race and all the Deutsch Cup Races.

Far be it from one to decry the Schneider Contests, after all the trouble and money spent by the Americans, the Italians and ourselves in winning the Trophy. But the fact remains that beating the Speed Record is a better national, trade, and personal advertisement than is the winning of quite a number of contests in which the speed record is not beaten.

We know we can have the World's Speed Record. So why have we not got it? Who will be to blame if the Italians manage to squeeze that extra two or three miles an hour out of their machines, or if Lieut. Alford Williams, U.S.N., does get his big machine going properly in the States, and takes from us the honour of being the first to do better than 300 miles an hour?

Expended Efforts.

Our machines belong to the Air Ministry, so evidently the constructors are not to blame. Our machines have been in the hands of the Royal Navy ever since they left England more than three months ago, so we can scarcely blame the Air Ministry.

So far as can be learned, the Navy delivered all the machines of the team to the R.A.F. at the London Docks one day last week. They have taken just two months to travel



THE MEN WHO DID GET A MOVE ON.—Messrs. Mitchell (left) of the Supermarine Co. and Wilkinson of the Napier Co. who achieved the Schneider Trophy Winner.

from Venice. They could hardly have been longer over the job if they had come by goods train from Italy across France.

Was there ever such wasted effort? All those good-looking thousands of pounds of John Citizen's money spent on building the machines. All those hundreds of hours of brain-fag by designers. All that wind-tunnel study of streamlines till our highest-browed scientists grew positively cross-eyed with watching. All the sore fingers and damaged thumbs in the workshops. All the nerve-strain of the engine-tuners before leaving England and before the race at Venice. All the bodily risk to the pilots in practice and during the race.

And what have we got for it? A very nice hat-rack in the Royal Aero Club. And a pretty good advertisement for an aeroplane and an engine till somebody goes and beats 300 miles an hour, and proves that if he had had the machine ready in time he could have had the Trophy as well as the Record.

Having won the Trophy we seem to have expended all our energy. But with a little more trouble and effort we might have achieved results so much bigger.

If we—that is to say, the British Navy, or the Air Ministry, or some Competent Authority—had brought the winning Supermarine and the nearly-as-fast Gloster back to England within a week or ten days of the Contest at Venice, either of them could have gone for the Record, and have got it, while the air was still warm and the light was still good. But we did not.

The British Navy once sent its star turn scrum-half back to England from Malta in a special destroyer so that the Navy could beat the Army at Rugger. But that, being a purely Service affair, was much more important than a mere World's Record, which could have been got by hustling an Admiralty collier a bit.

Apart from that, we might have gone for the Record over the course along the Lido a day or two after the Schneider Contest. We had our own time-keeper there to make the timing truly Inter-National, and the trial could have been done without any extra cost at all.

Or the machines might have been off-loaded at Malta and have had a try there. Time-keepers could have been flown over from France and Italy, or brought by destroyers, without as much expense as sending a scrum-half to England.

Hope Deferred.

Of course there is one good reason for not going for the Record. It is that both the Supermarine and Gloster designers know that they can get a good deal more speed out of their machine by modifying them slightly. And there is a super-boosted Napier engine which for a short burst will give a lot more power than those which were tuned for the Schneider Contest.

But suppose we do get 310 or even 320 miles an hour out of the machines, that is not going to be much use if somebody else is the *first* to do 300 miles an hour. Being the first to pass that crucial point is what will stick in the minds of the aeronautical public all over the World. You can only do a thing for the first time once.

So far as the non-flying Public is concerned, we have simply missed the 'bus. If we had beaten the Record within 10 days or a fortnight of winning the Schneider Trophy, and had exhibited the machine on the Horse Guards' Parade labelled "This is the first vehicle to travel at more than six miles a minute," John and Jane Citizen would have gone in thousands to gape at it, and would have been pleased to be taxed for more of the R.A.F. Squadrons which, like the Speed Record and the show at the Horse Guards', we have been promised and not had.

But now the time has passed. The psychological momentum has been lost. The Schneider win has been forgotten, except by us aeronautical folk. The Press is interested in murders and fogs and things. And nobody except ourselves cares two hoots whether we get that record or don't.

Probably even the makers of the machines themselves are by now much more interested in making good money out of production orders than in wearing out their brains on experimental jobs which cost a lot, show very little profit, and are not serious business. At any rate nobody could blame them if they did think that way.

What About Next Year?

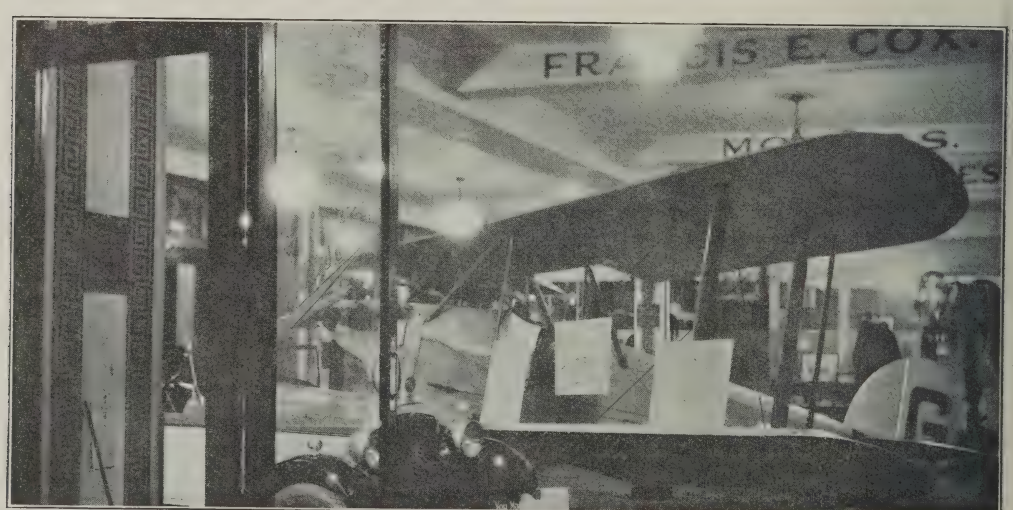
And now what are we going to do about next year? Are we going to defend the Trophy or not? If so, who is going to pay for new machines?

We may be fairly certain that the British Aircraft Industry will not put up the money. One firm could not afford to do it. And though the Society of British Aircraft Constructors co-operate very well up to a point, the various firms of which the Society is composed can scarcely be expected to put up £1,000 or so apiece to help one of their members to win a World-wide advertisement.

Also, who is going to provide new engines? Again, no one firm can afford the expense.

Besides which, if any firm did build an aeroplane or an engine specially for the job, the Income Tax Authorities would insist on regarding the cost as capital expenditure and would not allow the firm to pay for it out of profits,—so, in effect, the firm would have to pay income tax on the cost of the job, as well as spending the money.

If the Air Ministry do not order new machines and engines we may be fairly sure that we shall not have any. And the Air Ministry may well find difficulty in persuading the Treasury to sanction such expenditure, considering this new wave of economy which is stopping the equipment of the R.A.F., and considering the way in which the Air Ministry has lost its chance of making the Treasury air-minded by capturing that 300 mile-an-hour Record.



AIRCRAFT AND THE MOTOR TRADE.—This photograph shows a Blackburn Bluebird (Armstrong-Siddeley Genet) in the depot of Mr. Francis E. Cox, the well-known automobile engineer of 101, Water Lane, Leeds. Mr. Cox recently organised a combined display of the Blackburn Bluebird with Essex and Wolseley cars, for which he is the agent, and the results have been eminently satisfactory. During the ten days the Bluebird was in the showroom thousands of people passed through to inspect it. In addition, Mr. Cox enrolled quite a number of new members for the Yorkshire Aeroplane Club and received a number of inquiries which look like developing into sales of Bluebirds. The attraction provided by the Bluebird materially stimulated interest in the cars which were also on show. One recommends other motor agents to try and borrow light aeroplanes.

Proof of Napier's Reliability and Speed!

Schneider Trophy Race 1927

Winner—Supermarine-Napier, Speed 281.669 m.p.h.

"The race was a triumph for British engines which proved their undoubted superiority." *Daily Mail, 27th Sept.* 1927

Cape to Cairo and back—100,000 engine miles in all

Twice flown by four Fairey machines, each fitted with Napier engine

"The reliability of British aero engines has yet again been evidenced by the completion for the second time in twelve months of a Cape-Cairo flight by Royal Air Force machines, each of which was equipped with a 450 h.p. Napier Lion."

Notts Guardian, 25th May 1927

German Seaplane Competition 1926

Winner fitted with Napier engine

"The overwhelming superiority of British aero engines was demonstrated in the German seaplane competition just concluded at Warnemunde. The first prize was gained by the Heinkel-Napier monoplane, fitted with the famous 450 h.p. British designed and built Napier Lion engine."

Morning Post, 9th Aug. 1926

Spain to Buenos Aires—6259 miles

Flown by Major Franco with a Dornier flying boat fitted with two Napier engines

"This long non-stop flight, which for duration has rarely been surpassed, affords a further testimony to the excellence of British engine design and construction, for the Dornier Wal biplane flying boat is fitted with two 450 h.p. Napier motors."

Daily Telegraph, 5th Feb. 1926

On Commercial Service

2,000,000 miles by Imperial Airways

"The firm has twenty Napier engines in use. Between them these engines have covered a total of over 2,000,000 miles. One engine alone has covered over 200,000 miles, and seven others have run for more than 150,000 miles each."—Aeroplane, 31st Mar. 1926

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ENTERTAINMENT EXPENSES.

Whether we defend the Trophy or don't, we have got to hold the Contest in this country next year. So, where are we going to hold it, and who is going to pay for holding it?

After the way in which our representatives were entertained at Venice, and afterwards at the Congress in Rome, we must give at least as good as we were given. Who is going to entertain the Italians, and probably the Americans and the French and the Germans, all of whom may send teams,—let alone the official lookers-on of all the other nations—on the lavish scale which the Italians have set?

Is the Government Hospitality Fund going to pay for it? Or is the Air Ministry going to do it out of its Intelligence Vote, or its Vote for Ineffective Services? Or is the S.B.A.C. going to find the money? Or, are we, as usual, going to ask Sir Charles Wakefield to put his hand in his pocket?

The money has to be found somewhere, and those who will be responsible for running the Contest had better set about their quest forthwith. We cannot disgrace ourselves in the eyes of Europe and America by offering our visitors coffee and sandwiches at the South Kensington Museum, or the Imperial Institute, or some bleak barn of that sort.

WHITHER, OH WHITHER?

Then there is the question of place. The industrious North wants the Contest at Morecambe Bay,—plenty of sheltered water at high tide, and miles of mud at low tide. Morecambe Town Council might provide entertainment—bodily intentionally, and mental unintentionally, unless Town Councils have altered a lot. But it could scarcely compete with Rome under His Excellency Mussolini in mass-production hospitality.

The North-East Coast would also like the job. Hunstanton and the Wash, also with muddy miles, seems the only possible place on that side. And though Skegness is *so* bracing, the temperature of the North Sea in September is not that of the Mediterranean or the Adriatic.

Of all places, Lee-on-Solent still seems the most alluring. The Guests can be entertained at Portsmouth by the Admiralty —seeing that the Navy have had this year's machines so long and evidently like them, and seeing that the Admiralty is more adept at concealing its expenditure from the prying Treasury than is any other Department. Also, Portsmouth Town Hall is a magnificent place to do the entertaining—so long as the Salvation Army Band can be kept off the bottom steps.

Altogether we have no reason to look forward with joy to the honours and responsibilities which Flt. Lt. Webster has thrust upon us. But, if we are going to do anything at all about it, now is the time to get a move on.—C. G. G.

SIR ALAN COBHAM'S AFRICAN FLIGHT.

The Short Singapore (two Rolls-Royce Condor engines) with Sir Alan and Lady Cobham and their companions left Marignane, near Marseilles, on the morning of Tuesday, Nov. 22, and alighted inside the harbour at Ajaccio, Corsica, early on the same afternoon. Continuous rain and a strong head wind so delayed progress that three and a-half hours were taken for the 220 miles covered.

Continued bad weather forbade starting on the long over-sea stage to Malta until the morning of Thursday, Nov. 24, and even then the strong southerly wind so delayed the flight that darkness was falling when Malta was reached, and the Singapore had to alight alongside H.M.S. *Queen Elizabeth* in St. Paul's Bay, where they were entertained.

On the morning of Friday, Nov. 25, the Singapore was flown to the R.A.F. base at Calafrana. Alighting here in a very heavy swell, one wing-tip float was carried away, and a delay of several days will be necessary for repairs.

A SEASONABLE TOPIC.

On Thursday, Dec. 8, Capt. F. Entwistle, of the Air Ministry, will read a paper on "Fog" before the Royal Aeronautical Society, etc. The lecture will be delivered at the Royal Society of Arts, 18, John Street, Adelphi, W.C.2, at 6.30 p.m., and will be illustrated.

Fog is the greatest enemy of all forms of transport, and particularly to aviation. Capt. Entwistle, in his lecture will deal with the conditions which cause fog, the methods for determining the height of fog and the system of fog warnings to aircraft in force. Capt. Entwistle will also explain the forecasting of fog, fog dispersion and fog penetration.

THE RED AIR FORCE.

In a well-informed and unusually interesting article on the Soviet Army in *The Times* of Nov. 28, the following information is given concerning the Red Air Force:—

The Air Force is an organisation apart from the Red Army, but is under the direction of the Commissar for War. Its reconstruction began in 1921, and to-day it is attaining some recognisable degree of efficiency. Many machines have been purchased abroad, and some have been constructed in Russia.

There is a belief that Russia will shortly be able to meet her own air needs by internal construction. Designs have been purchased from other countries, and skilled aeronautical engineers have accepted service under the Soviet Government.

Some endeavour is made to select special *personnel* for this force, and youths who are sound in their Communist principles are drawn from secondary schools and undergo special courses in the Red Air Normal School.

There are approximately 90 squadrons of 12 machines each. Of these, about 50 are reconnaissance squadrons, 25 are fighting squadrons, and the rest bombing. There are 14 schools for pilots and observers. The most efficient machines are distributed along the Russian western front.

One strongly recommends all officers of the R.A.F. who take their profession seriously, if they have somehow missed this article, to get hold of a copy of that issue of THE TIMES and study carefully the whole organisation of the Red Army as set forth therein. It is quite the most valuable contribution to the study of the Great War of the future which has yet been published.—C. G. G.

RED PROPAGANDA.

The Soviet Press reports that to raise funds for the expansion of the Soviet Air Fleet an Aviation lottery was launched by the Osoaviachim in December, 1926. Two million 50-kopeck tickets were issued and this lottery was so successful that a second one was organised in July, 1927, with tickets to the value of 1,500,000 roubles (about £158,600). The report says that a special tax has been imposed on all Russian Trade Unions for the creation of a "Trade Union Air Fleet." By means of this tax about £123,375 was collected in July and August, 1927.

RUSSIAN TECHNICAL WORK.

Readers of THE AEROPLANE who understand the Russian language will be interested in the leading Russian aeronautical paper known as *The Technic of the Aerial Fleet of Aviation*. This is a scientific technical journal, published monthly by the Scientific Committee of the Red Aerial Fleet, the Osoaviachim (the Society of Friends of the Aeronautical and Chemical Industries), the Scientific Technical Section of the High Council of National Economics, the Avia Trust of the Aeronautical Industry, the Central Aerohydrodynamic Institute, the Scientific Automotive Institute, and the Academy of the Aerial Fleet.

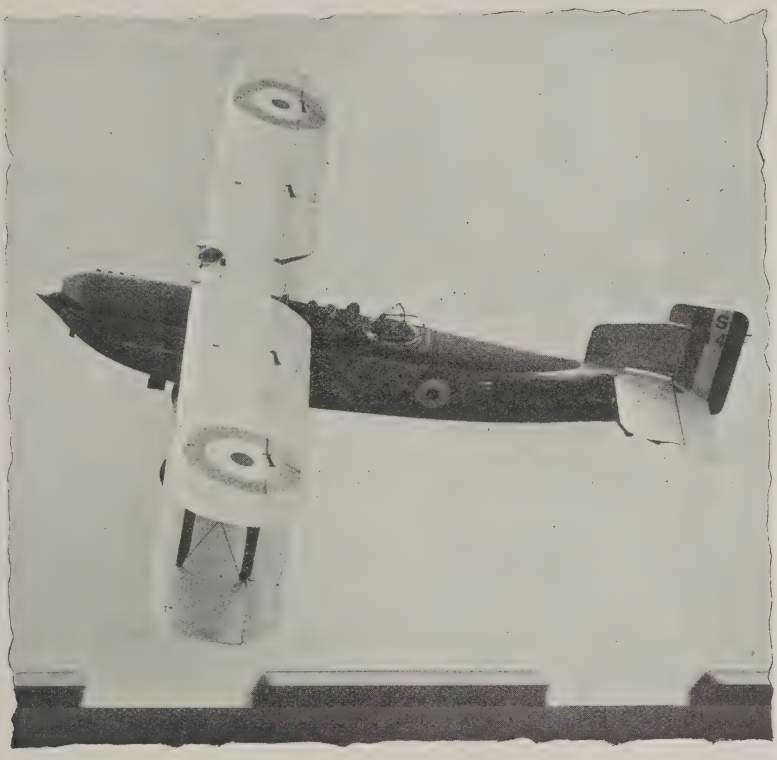
Each issue contains the following sections: Aerodynamics and construction of Aeroplanes; Construction of engines; Fabrication and materials of aeronautical constructions; Aerostatics; Chronicles and Reviews.

The subscription for foreign countries for one year is 12s. The address is: Moskow, Center, Street Rasin 5.



RED AIR FLEET EQUIPMENT.—A Russian-built copy of a D.H.9a with Russian-built Liberty engine. The Reds are reported to have nearly 2,000 machines of this type.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

The exceptional adaptability of the IIIF is doubly extended by the rapidly interchangeable sea and land undercarriages.

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Hayes - - Middlesex.

FAIREY AIRCRAFT

THE ROYAL AIR FORCE.

The London Gazette.

Nov. 22.

General Duties Branch.—P. C. Fair is granted a perm. comn. in the rank of Plt. Off. with effect from Nov. 15, and with seniority of Nov. 15, 1926. The following are granted temp. comns. as Flg. Offs. on attachment for four years' duty with the R.A.F. (Nov. 15):—Lts., R.N.—V. F. Smyth, I. M. Martineau, D. G. F. W. Macintyre, H. P. Sears. Sub-Lts., R.N.—J. P. G. Bryant, H. P. Madden. Lt., R.M.—J. S. Martin.

The following Flg. Offs. are transferred to the Reserve, Class A:—R. S. Walter (Nov. 24); G. C. Lugg (Nov. 27).

Flt. Lt. T. Henderson, M.C., A.F.C., resigns his perm. comn. (Nov. 1).

The following Flg. Offs. relinquish their S.S. comns. on account of ill-health (Nov. 23):—G. P. Mee, M. A. Smyth.

Flg. Off. H. B. Holdway (Lt., The Wiltshire Regt.) relinquishes his temp. comn. on return to Army duty (July 7). (Substituted for the notification in the *Gazette* of July 12.) Plt. Off. on probation C. R. M. Kiernander resigns his S.S. comn. (Nov. 24). The S.S. comn. of Plt. Off. on probation H. N. C. Williams is terminated on cessation of duty (Oct. 16). (Substituted for the notification in the *Gazette* of Oct. 25).

Stores Branch.—Plt. Off. on probation W. G. S. Wood is confirmed in rank and promoted to the rank of Flg. Off. (Oct. 9).

Medical Branch.—Flg. Off. J. McCarren resigns his S.S. comn. (Nov. 5).

Memorandum.—The permission granted to Sec. Lt. R. H. A. Nayler to retain rank is withdrawn on enlistment in the ranks of the Auxiliary Air Force (Oct. 18).

Reserve of Air Force Officers.—General Duties Branch.—The following Flg. Offs. are transferred from Class A to Class C:—R. H. Mahon (Oct. 28); A. W. Daly (Nov. 18). The following Flg. Offs. relinquish their comns on completion of service:—Dr. R. L. Powell (Sept. 12); F. Allen (Sept. 18); G. Veevers-Carter (Oct. 19). Flg. Off. S. G. Wybrow relinquishes his comn. on completion of service, and is permitted to retain the rank of Flt. Lt. (Oct. 24); Flg. Off. F. C. North relinquishes his comn. on completion of service, and is permitted to retain his rank (Oct. 24).

Auxiliary Air Force.—Medical Branch.—The following Flg. Off. to be Honorary Flt. Lt.:—No. 600 City of London (Bombing) Squadron.—N. P. Henderson, M.D. (Nov. 11).

Appointments.

Week ending Nov. 28.

General Duties Branch.—Wing Commanders H. R. Busteed, O.B.E., A.F.C., to R.A.F. Station, Worthy Down, Supernumerary, pending posting to No. 10 Sqdn. (on formation), 26/11. S. Smith, D.S.O., A.F.C., to H.Q., Middle East, for Personnel Staff duties, 4/11.

Squadron Leaders G. W. Robarts, M.C., to R.A.F. Depot, Uxbridge, 18/11. K. R. Park, M.C., D.F.C., to No. 111 Sqdn., Duxford, 18/11.

Flight Lieutenants T. S. Ivens, to R.A.F. Depot, Uxbridge, 1/11. J. L. M. de C. Hughes-Chamberlain, C. Rapley and L. de V. Chisman, to R.A.F. Depot, Uxbridge, 22/10. A. J. E. Broomfield, D.F.C., to Air Ministry (Signals Branch), 1/11. P. D. Robertson, A.M., to R.A.F. Base, Calshot, 16/10. G. E. Ranson, to R.A.F. Depot, Uxbridge, 16/10. S. S. Benson, A.F.C., to Station H.Q. and Storage Unit, Andover, 16/10. J. Cottle M.B.E., D.F.C., M. M. Freehill, D.F.C., J. S. Harrison and D. M. Fleming, to R.A.F. Depot, Uxbridge, 16/10. C. Findlay, D.F.C., to C.F.S., Wittering, 16/10. K. A. Meek, M.B.E., to A. and G. School, Eastchurch, 16/10. H. J. Gemmel, to No. 111 Sqdn., Duxford, 16/10. C. H. Harrison, to R.A.F. Station, Duxford, 8/11. F. H. Laurence, M.C., and G. M. Moore, to R.A.F. Depot, Uxbridge, 28/10.

Flying Officers R. Barrett, to E. and W. School, Flowerdown, 28/11. G. H. Loughnan, to No. 26 Sqdn., Catterick, 15/11. J. R. Jones, to No. 4 Sqdn., Farnborough, 7/11. G. H. Walker, to No. 26 Sqdn., Catterick, 15/11. L. R. Staddon, A. E. Groom, D.S.M., C. V. Lock, W. F. Rimmer and P. B. Chubb, to R.A.F. Depot, Uxbridge, 16/10. M. W. J. Boxall, to A. and G. School, Eastchurch, 16/10. J. A. E. Inkster, to R.A.F. Depot, Uxbridge, 16/10. C. H. Paget, W. A. Shorten and G. B. Collet, to R.A.F. Depot, Uxbridge, 22/10.

Pilot Officers A. P. de Woulf de Wytt, to C.F.S., Wittering, 22/10. P. C. Miller, to R.A.F. Depot, Uxbridge, 1/11.

Medical Branch.—Wing Commander W. A. S. Duck, O.B.E., to R.A.F. Depot, Uxbridge, 1/11.

Squadron Leader P. T. Rutherford, O.B.E., to R.A.F. Depot, Uxbridge, 16/10.

Flight Lieutenants J. J. Clarke, to R.A.F. Depot, Uxbridge, 22/10. G. J. Griffiths and D. B. Smith, M.B., to R.A.F. Depot, Uxbridge, 16/10. Flight Lieutenant (Dental) S. A. McCormack, to H.Q., Middle East, 16/10.

Stores Branch.—Squadron Leaders C. M. Bevan, to R.A.F. Depot, Uxbridge, 22/10. F. E. J. Coates and A. W. Smith, to R.A.F. Depot, Uxbridge, 16/10.

Flight Lieutenants A. M. Saywood and L. N. Sargent, to R.A.F. Depot, Uxbridge, 16/10.

Flying Officers W. J. Eagle, to R.A.F. Depot, Uxbridge, 16/10. C. J. Elliott, to No. 2 Stores Depot, Altrincham, 29/11. H. D. Giblett, to No. 208 Sqdn., Middle East, 17/11. F. W. Todd, to Station H.Q., North Weald, 11/10.

Accountant Branch.—Flight Lieutenant R. H. Cleverley, to R.A.F. Depot, Uxbridge, 16/10.

Flying Officers H. A. Murton and R. W. L. Glenn, to R.A.F. Depot, Uxbridge, 16/10. J. M. Hopkins, to Station H.Q., North Weald, 11/10. F. M. Hall, to Station Accounts Office, Hinaidi, 1/11.

Chaplains Branch.—The Rev. J. H. P. Still, B.A., to E. and W. School, Flowerdown, 1/11. The Rev. R. N. Shapley, M.C., to R.A.F. Depot, Uxbridge, on appointment to a S.S. Comn., 11/11, and to H.Q., Mediterranean, 17/11.

Activity at the Air Ministry.

The Air Ministry announces that the Ninth Royal Air Force Display will take place at Hendon Aerodrome on Saturday, June 30, 1928.

The Cairo—Kano 1927 Flight.

The Service Flight under Wing Cdr. F. W. Stent, M.C., which left Heliopolis on Oct. 27 to fly to Kano and back on Service Exercises, reached Geneina, on the Darfur frontier, on the return journey on Nov. 25.

The Wahibi Raid in 'Iraq.

The Times correspondent in Basrah in a message dated Nov. 23 states:—

In view of the expected attack by Wahabis under Sheikh Feisal ed Dowish, there is a good deal of tension on the marches. Royal Air Force aeroplanes, with bombs, are scouting ceaselessly. The danger is such that officers and men at the aerodrome are under active service conditions and sleep at night with rifles and ammunition ready to hand in case of emergency. If the Wahabis come they will undoubtedly suffer.

Replying to Col. Day in the House of Commons on Nov. 25, the Under-Secretary of State for the Colonies said:—

The Acting High Commissioner for 'Iraq reports that a raiding party of about 100 Wahabi tribesmen attacked the 'Iraq Police post at Busaiyah on the night of Nov. 5 and killed 20 persons, including six police and one civil official, and wounded one other This post is situated some 50 miles within the 'Iraq frontier. The raiders made good their escape. A strongly-worded protest has been sent to the King of the Hejaz and Nejd, to whom the raiders are understood to owe allegiance. Since the raid took place reports have reached the 'Iraq Government to the effect that Wahabi tribesmen were concentrating for a further raid upon 'Iraq territory, which was said to be planned for Nov. 16. So far as I am aware, no such further raid has taken place; and it is possible that the reports were, in fact, a belated forecast of the events of Nov. 5. Precautionary measures have, however, been taken to deal with any further trouble that may arise.

Another Geneva Gesture.

The Times correspondent in Cairo in a message dated Nov. 28, states:—

The British Government has offered the Egyptian Government the services of R.A.F. personnel to combat the locust invasion which the Egyptian authorities expect in the near future.

Altitude Research.

A Bristol Bulldog, with specially large wings, and a Jupiter VII is now at Farnborough, where certain altitude tests are to be made. One gathers that the main object of the machine is to attack the World's Altitude Record. If, however, this object is not achieved the machine will at any rate serve a good purpose in providing opportunities for serious altitude research.

Rumour says that the pilot will be Flt. Lt. J. A. Gray, D.F.C., who has flown at several race meetings in the past year.

The New No. 10 Squadron.

No. 10 Squadron, R.A.F., which is being formed at Worthy Down under the command of Wing Cdr. H. R. Busteed, O.B.E., A.F.C., is to be a Bombing Squadron in the Wessex Bombing Area, Air Defence of Great Britain. It is the first of the three new Squadrons for Home Defence promised by Sir Samuel Hoare in the House of Commons on Nov. 16, to be established before the end of the financial year.

No. 10 (Bombing) Squadron will be equipped with Handley Page Hyderabads (two Napier Lion engines) on its formation. These machines will later be superseded by Handley Page Hinaidis (two Jupiter engines).

Two bombing Squadrons, No. 7 and No. 58, are already stationed at Worthy Down. Presumably therefore the reconditioned aerodrome at Boscombe Down, which has been in use as a night landing ground, will be available shortly for one of these Squadrons.

No. 10 Squadron, R.F.C., was formed in 1915 and in 1916 was part of the 1st (Corps) Wing, I Brigade (1st Army). The Squadron was disbanded after the Armistice.

Any information concerning the doings of the original No. 10 Squadron, from those who commanded it or served with it, will be gratefully received, for the benefit of the personnel of the new Squadron.

Commands and Staff.

Wing Cdr. Henry Richard Busteed, O.B.E., A.F.C., whose appointment to Worthy Down pending posting to No. 10 Squadron on formation is dated Nov. 26, was born in Australia and tried to teach himself to fly on a Bleriot machine in Melbourne in 1910. The machine is said to have accomplished a few short hops.

In 1911 he came to England and learned to fly on a Bristol biplane on Salisbury Plain. His Royal Aero Club Certificate, No. 94, is dated June 13, 1911. He was for some time an instructor and later a test pilot for the

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Bristol Aeroplane Co. and at the end of 1912 he won the third prize in the military trials on a Bristol monoplane.

He joined the R.F.C. (Naval Wing) Reserve before the War and passed courses at Salisbury Plain and Calshot. In 1914 he served at Grain, Westgate and in H.M.S. *Hermes* and H.M.S. *Engadine*. In 1915 he was sent to America to buy aeroplanes for the Admiralty.

In 1917 he was posted to the Experimental Station at Grain and in 1918 was appointed to command Grain. He was awarded the O.B.E. in 1918 and the A.F.C. in 1919.

After the Armistice he commanded the R.A.F. Base, Gosport, and in 1923 he was posted to Coastal Area H.Q. From May, 1925, to September, 1926, he commanded the R.A.F. Unit in H.M.S. *Furious*.

In September, 1926, he was posted to the R.N. Staff College, Greenwich, for a course and in August, 1927, he was posted to a Senior Officers' Technical Course at Portsmouth. Thus he has had considerable experience of the Royal Navy.

Wing Cdr. Sidney Smith, D.S.O., A.F.C., whose appointment to H.Q., Middle East, for Personnel Staff Duties is dated Nov. 4, transferred to the R.F.C. from the 3rd East Anglian Brigade, R.F.A. (T.F.) in 1915. He learned to fly at Norwich on a Maurice Farman biplane and his Royal Aero Club Certificate, No. 1801, is dated Sept. 28, 1915.

He served with the R.F.C. in France and the Middle East and was awarded the D.S.O. in the *Gazette* of Jan. 1, 1917, "For distinguished service in the Field." He was awarded the A.F.C. in the *Gazette* of Nov. 2, 1918.

After the Armistice he was appointed to command No. 2 F.T.S., Digby, and was promoted to the rank of Wing Commander on Jan. 1, 1921. In November, 1924, he was posted to H.Q., 'Iraq Command, for Air Staff Operations and Training Duties, and in January, 1927, he was appointed to the R.A.F. Depot, Aboukir.

Seconded Officers.

The London Gazette of Nov. 15 gives the names of the following three officers of the R.A.F. who are seconded for duty with the Royal Australian Air Force from Nov. 12, 1927. Wing Cdr. M. Spicer, Sq. Ldr. H. G. Smart, O.B.E., D.F.C., A.F.C., and Sq. Ldr. T. F. W. Thompson, D.F.C.

Wing Cdr. Spicer was seconded to the R.F.C. from the Northamptonshire Regt., as an Equipment Officer in April, 1915. He became a Park Commander, R.F.C., in August, 1916, and a Depôt Commander, R.F.C., in October, 1917. He was promoted temporary Lieutenant-Colonel in April, 1918, and Wing Commander, R.A.F., in August, 1919. Since the Armistice he has commanded the Aircraft Depot, 'Iraq, from September, 1923, and been on the H.Q. Staff of the Wessex Bombing Area, April, 1926.

Sq. Ldr. Smart was given a commission as 2nd Lieutenant in the R.F.C. from the ranks of the Royal Engineers in November, 1915. He was appointed Flight Commander, R.F.C., in July, 1917, and promoted to the rank of Captain in April, 1918.

He was awarded the D.F.C. for gallantry in the 'Iraq operations of 1921, and the A.F.C. in the King's Birthday Honours in 1927. Since 1923 he has been on the staff of the Central Flying School at Upavon and later at Wittering.

Sq. Ldr. Thompson was seconded to the R.F.C. from the 3rd Batt. the Welch Regt. in August, 1914. He was promoted to the rank of Captain (Welch Regt.) in September, 1915, and appointed Flight Commander, R.F.C., in December, 1917. He was awarded the D.F.C., for distinguished service in Waziristan in 1922. Since his return from India he has been on the Staff of the School of Technical Training (Apprentices), Halton. He was promoted to the rank of Sq. Ldr. in July, 1927. He is a graduate of the R.A.F. Staff College, and a B.Sc. (Civil Engineering).

Bombing the Goeben.

In THE AEROPLANE of Nov. 23 it was stated that Mr. Worrall, late R.N.A.S., got his D.S.C. for being the only pilot to hit the *Goeben* with a bomb when she was aground for three or four days outside the Dardanelles.

A correspondent writes to say that this is not correct, because Flt. Lt. A. F. Marlowe, R.A.F.O., not only got a direct bomb-hit on the *Goeben* in the Dardanelles, but with another bomb sank a repair ship beside her.—He was not awarded a decoration.

R.A.F. SPORTS AND PASTIMES.

Association Football.

R.A.F. v. Cambridge University.—The R.A.F. team was beaten by Cambridge at Cambridge on Nov. 26 by four goals to two. *The Morning Post* account of the game states :—

The Air Force started so well that early in the game they took the lead through Oates, but subsequently Cambridge had the best of matters and took the lead through Valentine, who scored two goals in quick succession. Baldwin put the Air Force on terms once more with a clever low shot, and for the remainder of the opening half both goalkeepers had a lot of work to do. On the whole Cambridge were the more dangerous side, and only slowness in front of goal robbed them of further successes. As it was Cambridge obtained their third goal when Quadling, the Air Force goalkeeper, was charged with the ball into the net. And, close on time, with the fog becoming very thick, Robins scored the fourth goal.

The R.A.F. team were :—

Goal, AC. L. W. Quadling (Felixstowe); *R. Back*, Cpl. W. Bangay (Cranwell), *L. Back*, Flt. Lt. B. Ankers, D.C.M. (Captain) (S. Farnborough); *R. Half*, Cpl. R. Stewart (Leuchars), *C. Half*, AC. R. J. Robinson (Henlow), *L. Half*, Cpl. R. W. Baldwin (Uxbridge); *O. Right*, Sjt. E. W. Francis (Cranwell), *I. Right*, AC. L. Oates (Henlow), *C. Forward*, AC. C. Parrish (Flowerdown), *I. Left*, AC. L. S. Smith (Martlesham Heath), *O. Left*, AC. D. Cockle (Netheravon)

A W.R.A.F. Bazaar.

Air Vice-Marshal Sir Sefton Brancker, K.C.B., A.F.C., will open a Bazaar organised by the Old Comrades Association, W.R.A.F., on Dec. 3 at the Queen's Westminsters' Hall, 58, Buckingham Gate, S.W. The Bazaar is in aid of the W.R.A.F. O.C.A. Benevolent Fund and will be an excellent opportunity to buy cheap Christmas presents and at the same time help a good cause.

AIR AFFAIRS IN PARLIAMENT.

COMPASS MAINTENANCE IN THE R.A.F.

In the House of Commons on Nov. 23, in reply to a question by COL. DAY, the UNDER-SECRETARY OF STATE FOR AIR said that the compass carried on the machine used by the late Flt. Lt. Mackenzie-Richards, R.A.F., when he was killed on Nov. 9, was not known to be defective when the machine left Farnborough. The instrument had been examined on Nov. 7 and reported to be in good condition. All these compasses were examined periodically.

COMPARATIVE AIR STATISTICS.

In the House of Commons on Nov. 23, in reply to a question by MR. RENNIE-SMITH, the UNDER-SECRETARY OF STATE FOR AIR said that the present approximate first line strength of the R.A.F. was 750 aircraft, of which 270 were in squadrons stationed abroad. The total personnel in the Force was 29,985. The present strength of the French Air Services, according to his latest information, was about 1,350 first line aircraft, of which some 280 were in Units abroad. It was not practicable to give the number of personnel engaged in air duties in France because large numbers of those so employed belonged to the Army and Navy; nor could any useful comparative figures be given for horse-power of the engines.

N.W. INDIA AIR ESTABLISHMENTS.

In the House of Commons on Nov. 23, in reply to a question by MR. WELLOCK, the UNDER-SECRETARY OF STATE FOR INDIA said that there had been no increase in the air establishments in North-West India during the present year. He was not prepared to make any statement regarding future policy at present.

BOMBING AND GUNNERY.

In the House of Commons on Nov. 24, in reply to a question by MAJOR BRAITHWAITE, the UNDER-SECRETARY OF STATE FOR AIR said that proposals for the establishment of an air gunnery and bombing range on the coast near Skipsea were under consideration and had been the subject of correspondence with the shipping and other interests which might be affected. There was no question of establishing a large permanent station in this vicinity.

THE ANGLO-GERMAN AIR TRAFFIC AGREEMENT.

In the House of Commons on Nov. 4, in reply to a question by LT.-CDR. KENWORTHY, the UNDER-SECRETARY OF STATE FOR AIR circulated the following statement in *The Official Report*:—

As regards the first part of the question, the Anglo-German Air Traffic Agreement was signed at Berlin on June 29 last and will come into force as soon as it has been ratified. Ratification by Germany involves certain legislative measures which have not yet been completed, but in the meantime it has been arranged that occasional flights may be made without special permission between the two countries in accordance with the stipulations of the Agreement. Under the Agreement the establishment of regular air services by nationals of the one State over the territory of the other will require the formal permission of the competent aviation authorities of the latter country in each case. As regards the second part of the question, the negotiations between the Czechoslovak Government and Imperial Airways Limited for the extension of the London—Cologne air service to Prague have so far proved abortive, and pending a settlement it would be premature for His Majesty's Government to re-open with the German Government the question of permission for this service.

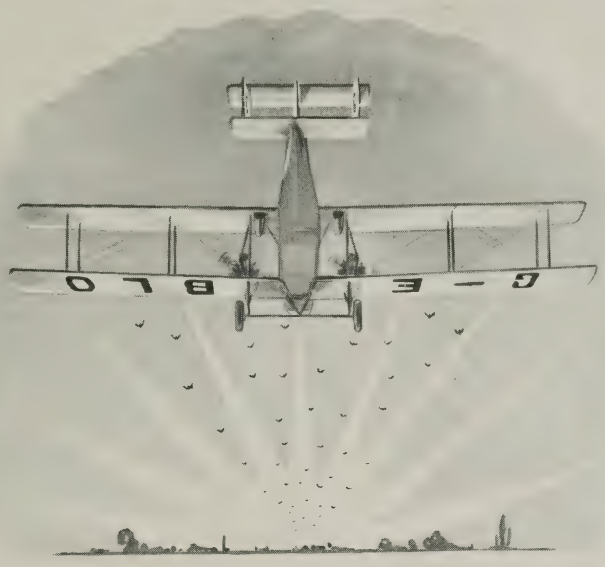
THE SLOT CONTROL.

In the House of Commons on Nov. 24, in reply to a question by LORD SANDON, the SECRETARY OF STATE FOR AIR said that the automatic slot control was now being fitted experimentally to an Imperial Airways Air Liner in order that the details of its application to the special characteristics of that type of aircraft might be determined. He was confident that manufacturers of civil aircraft would not be slow to incorporate the device in their machines when it had been proved successful on the various types.

COMMISSIONS FROM THE RANKS.

In the House of Commons on Nov. 24 in reply to a question by LT.-CDR. KENWORTHY, the SECRETARY OF STATE FOR AIR said that Aircraft Apprentices in the R.A.F. had a double opportunity of obtaining a commission. A certain number were selected every half-year for cadetships at the R.A.F. Cadet College, Cranwell, whence they were granted commisions on the successful completion of the ordinary two years' course at the College. The number of cadetships granted since this system came into force had been :—2 in 1922, 7 in 1923, 7 in 1924, 11 in 1925, 10 in 1926, and 4 to date in 1927.

In addition the commisioned ranks were now open to selected airmen pilots and three of such direct commissions had been given in 1926 and five, to date, in 1927



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OUR UNDER-SECRETARY OF STATE IN AMERICA.

Some few days ago one had by good chance the opportunity of a talk with our Under-Secretary for Air, Sir Philip Sassoon, on his recent visit to the United States, and one found that, like everybody from this side of the Atlantic who visits America, he is now filled with admiration for the wonderful progress which America is making in everything connected with flying—all the way from the aircraft themselves down to the most minute equipment of man and machine.

Sir Philip, who was accompanied by Flt. Lt. A. G. Jones-Williams, M.C., as kind of *aide-de-camp* and *aide-de-salon* combined, travelled all over the Eastern States and Eastern Canada, visiting air stations, aerodromes and aircraft factories. Everywhere he found intense activity and progress. And he was met everywhere with that wonderful American friendliness and hospitality which so embarrasses visitors from England because we never have the remotest chance of returning it unless our good friends come over here, which they do not do in adequate numbers to strike a fair balance.

What seems to have struck Sir Philip most was the extraordinary openness with which the Service and Trade people in the States showed him all their latest technical developments. Instead of hiding things behind screens or keeping them in locked-up sheds as is our custom in this country the American habitually shows his visitors everything he has got which is not actually in the stage of being patented or being developed purely experimentally. And we might well follow the American example with advantage to ourselves. We should get a lot more knowledge if we were willing to exchange official information.

Years ago, when one was a draughtsman with the Swift Co. of Coventry, one of the biggest American cycle manufacturers came over here and one was told off to conduct him round the factory. Being very young and very English one suggested that, being a foreign competitor, he was highly privileged in being allowed to see our methods of production. His reply was that he was always glad to show his own competitors round his factory, because he always learned something from their criticisms, and moreover if they saw something new in his factory and went home and copied it they would need twelve months in which to put it into operation, and if he was still using it by then, that meant that he was out of date.

The American manufacturer of to-day still holds by that thoroughly sound theory. He helps his competitors to progress, and their competition helps him to progress. We in this country, whether commercial or official, are apt to hug to our bosoms secrets known to everybody but ourselves, and so we stagnate when we might be progressing by being more willing to exchange information.

Apart from the personal and psychological impressions of his visit, two material objects seem to have impressed Sir Philip more than anything else. The first was the single-seat pursuit ships of the U.S. Air Corps. These machines are the Curtiss Hawk, officially known as the P-1B, and are the latest development of the PW-8, which was putting up a speed of between 170 m.p.h. and 180 m.p.h. years ago. Sir Philip said that he was very much struck by their speed and manœuvrability, which is not surprising, considering that the speed of the P-1B is 170 m.p.h., whereas our single-seaters, such as are in the squadrons, do about 135 m.p.h.—A formation of P-1Bs may be seen on the front page of this paper.

At the other end of the scale the thing which pleased him was the American flying suits, which, he says, are a very much improved version of our standard Service flying suit, invented by Mr. Sidney Cotton during the War, and now known as the Sidcot. With it the Americans wear a flying cap, which is much more comfortable than ours, better shaped, and apparently made in a greater variety of sizes as a Service issue.

One can understand Sir Philip speaking feelingly on this subject, for in one week he spent six nights in trains and flew all day. Under such circumstances the comfort or discomfort of flying suits and caps would be noticeable. Any American train is apt to make one sensitive, for, as Sir Philip aptly remarked, every time an American train stops you think there has been an accident. The American railways are far the worst thing in the United States, and must be contributing very largely to the popularity of flying.

Having learned in the States that most people in the American Flying Services and Aircraft Industry read this paper, Sir Philip has done THE AEROPLANE the honour of asking it to convey to all those whom he met in America, and to whom he is unable to write personally, his thanks for all their kindly consideration and hospitality. He wishes to express his appreciation of the spirit in which he was received, and his admiration of the progress which is being made in American Aviation.—C. G. G.

DYNAMITE IN THE R.A.F.

[" Lawrence and the Arabs." By Robert Graves. 448 pages, 24 illus., 4 maps and index. Jonathan Cape. Supplied by THE AEROPLANE Book Dept., 14, Bream's Bldgs., E.C.4. 7s. 6d. net.]

This book has been written by Mr. Graves with the consent of Lawrence. It contains and explains a good deal of the material already published in *Revolt in the Desert* (an abridgement of the privately printed *Seven Pillars of Wisdom*), in that it has made Lawrence's own two books into a coherent narrative and filled in many of the gaps which make *Revolt in the Desert* so difficult to understand.

Mr. Graves's book is of especial interest to Service people not only because Lawrence is now serving in the R.A.F., and has been quoted by certain newspapers as expressing sentiments unpleasant to the Air Force, but because it describes the events which led up to what was the only " war of movement and manœuvre " among the various campaigns between 1914 and the Armistice.

On hearing that Lawrence had enlisted in the Royal Air Force about 75 per cent. of the R.A.F. probably asked themselves or other people " Why? " The other 25 per cent. probably said, " Who the devil is Lawrence anyway?" *Lawrence and the Arabs* is a completely satisfactory answer to both these questions.

It explains exactly how and why he came to take so prominent a part in the Arab Revolt and welds all the incidents of that astonishing campaign into a comprehensive history. Also Mr. Graves has drawn Lawrence's character and temperament so well that the reader does not look for hidden motives in anything that Lawrence has done in the past or may do in the future, for Mr. Graves has made that incredible hero known as " The Uncrowned King of Arabia " into a complex but believable mixture of an idealist, a student, an occasional strategist and always a man of great personal bravery.

The story of the campaign in Arabia needs no recommendation to readers of THE AEROPLANE. Those who have read *Revolt in the Desert* and have found themselves entranced but slightly fogged at the end of it can read *Lawrence and the Arabs* and see the why and wherefore of the obscure patches and can link up the incidents into a complete campaign. Those who have not read *Revolt in the Desert* will find all that is best in it in this book.

There are plenty of good stories, among them this :— " When Yenbo was abandoned there were left behind some heaps of broken weapons and two English armourer-sergeants. Also thirty sick and wounded Arabs. The armourer-sergeants, finding things boring had dosed and healed the men and mended the machine guns, and combined them into a company. The serjeants knew no Arabic but trained the men so well by dumb-show that they were as good as the best company in the Arab army."

Mr. Graves considers that Lawrence's determination to enlist after the War, if he survived, dates from certain friendly outings with the Armoured Car and R.F.C. people at the end of 1917. He had to wait in Akaba for a month and during that time he made experimental raids in armoured cars against the Turkish railways.

There is a particularly vivid description of the gallant action for which Lieut. H. R. Junor, R.F.C. (afterwards Flight Lieutenant, R.A.F., who was killed while testing a new machine for the R.A.F. in August, 1926), was awarded the D.F.C. The amazing mobility and independence of air units made a strong appeal to Lawrence and he made every possible use of any available aircraft during the Revolt.

Much has been made by critics of the R.A.F. out of certain extracts from that part of *Lawrence and the Arabs* which deals with his life as an aircraftman in the R.A.F. There is nothing interesting or informative in this section of the book, which would be better without it. Mr. Graves states that Lawrence served for six months without his identity being suspected and adds :—" Unfortunately an officer recognised him and sold the information for thirty pounds to a daily paper." This is a very nasty accusation to make, particularly as he omits to state what the Air Force did to the officer!

Mr. Graves also quotes several alleged conversations between various unnamed officers in the R.A.F. and Lawrence in which Lawrence is shown as being impertinent without being funny. Lawrence's much-quoted letters to the Author were probably not intended for publication and are certain to be misunderstood, at any rate by civilians.

In an excellent little book called *The Odd Hint to the R.A.F.* published just after the War and now out of print " Wing Commander " warns the R.A.F. against indulging in one of its popular pastimes of " misleading its innocent journalistic friends." Like the rest of the advice in this little book it was very sound advice.

Lawrence wrote to his friend the Author of *Lawrence and the Arabs* : " The R.A.F. is as different from the Army

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as the air is from the earth. In the Army the person is at a discount: the combined movement, the body of men, is the ideal. In the R.A.F. there are no combined movements: its drill is a joke, except when some selected squad is specially trained for a tattoo or a ceremony. The airman is brought up to despise the Army. 'Soldier' is our chief insult and word of derision." When he wrote that Lawrence cannot have imagined that these words would be used as a thinly-veiled attack on Air Force drill and discipline by "innocent journalists." An intelligent man like Lawrence who brought law and order combined with intense mobility into the chaos of an Arab revolt would be the last person to deride, seriously, the highly essential drill which makes for health, self-pride and the orderly and economical movements of any mass or body of men.

Certain thoughtful people have expressed the opinion that Lawrence will make mischief in the R.A.F. One does not think that he intends to attempt anything of the sort and even if he did the R.A.F. has survived so many attempts from so many different quarters to undermine its *moral* that *Emir Dinamit* could not do so if he would.—C. M. MCA.

CRITICAL CAMPAIGNS.

["Great Captains Unveiled." By Capt. B. H. Liddell Hart. 274 pages. Wm. Blackwood and Sons, Ltd. Supplied by THE AEROPLANE Book Department, 14, Bream's Buildings, E.C.4. 12s. 6d. net.]

The connection between "Great Captains Unveiled" and Aviation is somewhat remote, unless one calls to mind certain photographs taken on the Lido at the time of the Schneider Trophy contest, and, besides, they were captains of industry. Capt. Liddell Hart's book has, of course, no such frivolous reference. In fact he has only unveiled his heroes to clothe them anew in the garments of romance.

He has taken Jenghiz Khan, the Maréchal de Saxe, Gustavus Adolphus, Wallenstein and Wolfe, in turn, and analysed in a brief and competent style the qualities that made them great, and the acts of fortune which utilised their greatness in the service of their countries. Captain Liddell Hart has traced the progress of military strategy through the careers of these five great commanders, from the foundation of the Mongol Empire to the siege of Quebec, and compared the outstanding operations and results of these generals' campaigns with campaigns of more recent times.

It is interesting to note that the average age of his five great Captains at the height of their military careers was about 40 years, a curious contradiction to the theory that no man becomes a great general before the age of 60.

Capt. Liddell Hart's book is a valuable addition to those studies of war which are written in sufficiently simple language for the beginner. And the first article, that on Jenghiz Khan and Sabutai, indicates precisely what any great Russian leader could do to-day.—C. M. MCA.

AN EPISTLE OF AN F.E.S.I'UN.

["Winston Churchill." By "Ephesian." Mills and Boon. Supplied by THE AEROPLANE Book Dept., 14, Bream's Buildings, E.C.4. 10s. 6d. net.]

Owing to the fact that the publishers have not had the politeness to send to this office a copy of "Winston Churchill" by "Ephesian" it has not been possible hitherto to review it. Is "Ephesian" a portmanteau word for "F.E.S." and "effusion"?

Occasionally after having bought tickets for a theatre one has felt in duty bound to write a paragraph suggesting that others for their own enjoyment rather than for the enjoyment of the producer, should see it. In the same way one would suggest that everyone should acquire by way of their local library "Winston Churchill."

As is said of many thrillers, it is one of those books which one cannot put down until the end is reached. One had thought to skip the early life of the subject and get on to more important political parts, but the schooldays, early soldiering plus journalistic days, the description of the Battle of Omdurman and the escape from Pretoria are all absorbing.

It is amusing to learn how the Army was run in those days and to find Mr. Churchill sent out to Egypt and South Africa as an unpaid officer but being allowed to pay his expenses by acting as War Correspondent to *The Morning Post*. He regards wars as holidays and he remarks that he has discovered that one must "make a war pay for itself" much as some of us nowadays try to make a holiday pay for itself by doing a little business. On arrival in India for instance he finds that the officer in charge of a minor war is also Reuter's correspondent.

The political portions shed new light on many of Mr. Churchill's actions and tend to raise the high opinion which anyone who thinks must already hold of the present Chancellor of the Exchequer and potential Prime Minister.

In common with all other good books this may be obtained from THE AEROPLANE book department.—G. D.

THE ITALIAN AIR ATTACHE.

General Rodolph Verduzio, the new Air Attaché at the Royal Italian Embassy in London, was born in Naples in 1881. He studied at the School of Artillery and Military Engineering in Turin and in 1906 he was appointed to the Aeronautical Service. He was later appointed to the Establishment of Aeronautical Construction in Rome where he was engaged in the construction of semi-rigid airships of the "P," "M" and "V" types.

In 1916 he was promoted to the rank of Captain for distinguished service and appointed to the Technical Directorate of Military Aviation in Turin where, with Colonel Savoia, he designed the S.V.A. aeroplane, on which type Gabriele d'Annunzio's Squadron peacefully bombarded Vienna with propagandist literature, and on which Lieuts. Ferrarin and Masiero made the first great flight from Europe (Rome) to Tokio.

In 1918 after promotion to Lieutenant-Colonel for distinguished service he was appointed to the Aeronautical Experimental Section. From 1920 to 1925 he was in charge of the general administration of Aeronautical Engineering.

General Verduzio is a Commander of the Order of the Crown of Italy, of the Order of S.S. Maurizio and Lazzaro and of the Order of the Legion of Honour. He is a Commander of the first class of the Order of St. Olaf (Norway) and a Commander of the Striped Tiger (China). He has also won the Bronze Medal for Civil Bravery, which corresponds to our Albert Medal.

His family is inscribed in the Golden Book of the Italian Nobility. In addition he is an Engineer-Professor of aeronautical construction at the Royal School of Engineers in Rome. He is the author of many different publications on the theory and construction of airships and aeroplanes.

THE HUDSON STRAITS AIR SURVEY.

S.S. *Stanley* has returned to Quebec from the Hudson Straits after having established three survey stations, each with a personnel of 12 airmen. The stations at Port Burwell, at the south end of Nottingham Island, and at Wakeham Bay, will report daily by wireless to the Department of Marine and Fisheries on the ice and weather conditions in the Straits all the year round.

The R.C.A.F. equipment consists of six Fokker Universal monoplanes (200 h.p. Wright Whirlwind engines), and the squadron will be responsible for the patrol of 500 miles of the Straits.

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By C. F. Snowden Gamble.

Warnemünde.

On the Wednesday morning, through the courtesy of the Directors of *The Deutsche Vekehrsfliegerschule,* one was flown over to their seaplane training school at Warnemünde in a two-seater Junkers monoplane (A.20) piloted by a pupil—Herr von Prinz.

This Station on the Baltic Sea is 200 kilometres (124 miles) from Staaken and about a mile from the old Hanse town of Rostock. Warnemünde Station was the German equivalent to the R.N.A.S. Isle of Grain during the War, and the headquarters of their Naval Air Service Photographic Section.

During the Revolution some the sheds were burned to the ground, and afterwards all the photographs and negatives (which constituted a complete pictorial record of their experimental work there) were seized and destroyed.

The Station is large and sheds face onto a big lake; the backs of the sheds are about 100 yards from the sea. In the Summer machines are generally flown off the surface of the lake, and in the winter from the sea, as the lake is frozen.

The manager of the Station is Conrad Goltz (*mit rad!*) and the Chief Instructor Herr Becker. Both of them were at one time Naval Officers. The latter specialised in the flying of torpedo-carrying Gothas. He has two other Instructors under him and about twenty pupils.

The pupils are trained at first on the ancient Friedrichshafen machine with 200 b.h.p. Benz engine. (Incidentally, German pilots could not, and never can, understand why we persisted with the tail-float type of machine.—Their bewilderment was and is shared by others.)

Some of these machines have been fitted with a cabin, and such are affectionately known as the old "sea cows" (*"see kuh"*). One died in the Baltic while one was there!

Later, the pupils pass on to the L.F.G. (type V.60) and to the Heinkel H.E.5 (500 b.h.p. B.M.W. 6) and the H.D.24.

Owing to the shortage of money, the seaplane schools are not so well-equipped with modern machines as are the aeroplane schools. All machines are handled on the "concrete" by a tractor.

A word as to the pupils. In the Summer months they wear nothing on the ground but bathing trunks; and one has never seen such a body of fine young men. Physically they looked simply magnificent with their golden hair and blue eyes and splendidly developed, tanned bodies. They are a monument to the physique of their race.

In the early afternoon one was shown around Warnemünde by Frau Goltz, and one can strongly recommend it to anyone who wants a holiday by the sea—free as it was from the all-pervading vulgarity of the better-known French and Belgian seaside resorts.

The Heinkel Works.

Afterwards one was shown round the works of the *Ernst Heinkel Flugzeugwerke G.m.b.H.* at Warnemünde by one of the Directors—Herr Hormel. Later one met Doktor Ingenieur Ernst Heinkel himself and his Chief Engineer—Doktor Stein. The latter was for four years the Engineer Officer at the Zeebrugge Air Station during the War. The former will be remembered by many of the Royal Naval Air Service as the designer of the famous Brandenburg.

The works are small but well equipped and very busy. One saw an H.D.24 biplane being completed. This is a single-engined (230 b.h.p. B.M.W. 4) machine, built for training purposes, readily convertible to a twin-float seaplane. The fuselage is built up of a steel-tube framework comprising four longitudinal members with rectangular frames assembled by electric welding.

In general, all the fuselages of machines to this design are built up of short lengths of steel tubes of diminishing diameters, so that one sockets into the other. Each socket joint is then electrically welded. It looks a very neat job, and one understands that of all the thousands they have made, not one has ever failed in the air.

An H.E.5 with a B.M.W. VI engine was passing through the shops. This is a similar machine (except for the engine, which was a Napier Lion) to that on which von Gronau won the seaplane contest at Warnemünde.

One also saw an H.D.40; this is a single-engined biplane with staggered wings, fitted with a 465-600 h.p. B.M.W. 6 engine. This machine is designed for the transport of newspapers and these are released through trap doors.

All the machines impressed one with their workmanship and neatness of design. One also noted that this firm (in common with the others that one visited) seemed to subscribe to every published aeronautical journal.

Berlin Again.

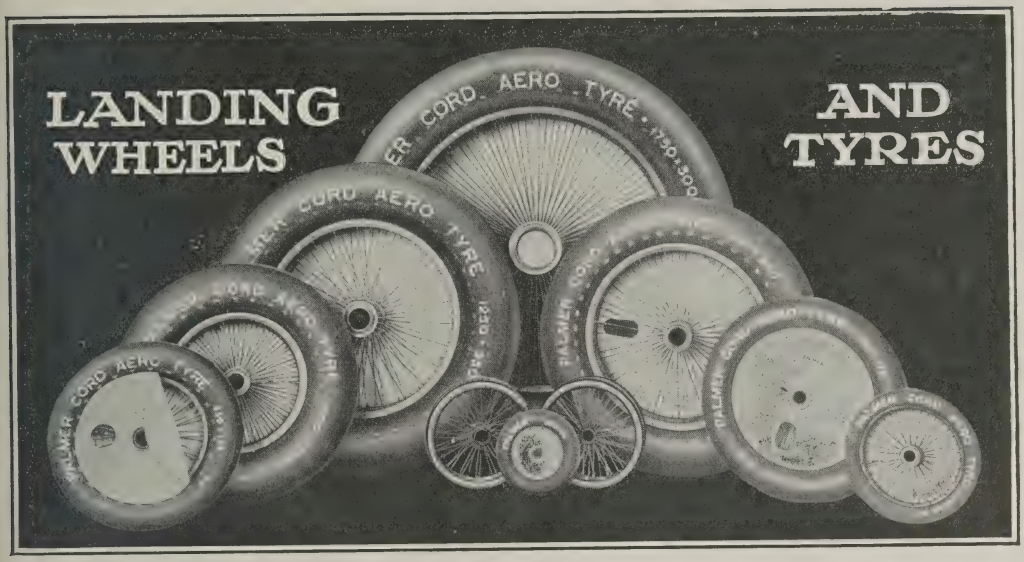
In the evening, one flew back to Staaken, and later saw the German War Film—*"Der Welt Kreig"* at the new *UFA* Cinema Theatre. This film only deals with events up to the Battle of the Marne and is (with the exception of the excellent explanatory map) extraordinarily dull—not nearly as good as "Mons" or the German film of the exploits of the "Emden." One noticed that when pictures of the Kaiser appeared not a single cheer was raised.

Next morning (Thursday) one called at the main offices of the *Deutsche Luft Hansa A.G.,* in the Mauerstrasse



SEAPLANE TRAINING.—The Station at Warnemünde on the Baltic. A corner of the Heinkel Factory is seen on the right.

PALMER



STANDARD SIZES.

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
700×100	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×200	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

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(offices as large and as well-equipped as the majority of big shipping companies in this country) and there was introduced to sundry officials.

From there one went to the Berlin Works of the *Rohrbach Metall-Flugzeugbau G.m.b.H.* and met Herr Direktor Koch, who was good enough to show one around these works.

As is well known, duralumin is used for the whole of the structure of the machines built by this Company, with the exception of certain fittings which are made of machined high-grade steel forgings. The basic principle of their construction is that the duralumin is used in the form of sheets and strips; all channels, angles, etc., are drawn from the sheet—thus they only keep in the stores sheets which are easily procurable. All the framework and coverings are coated with protective varnish. The cost of manufacture at present is admittedly high (the workmanship is excellent) but this will, of course, be reduced in time.

One saw a Robbe flying-boat being completed (all exposed joints in the control rods are clothed with water-tight "concertina" bags full of grease)—an impressive machine; also some Rolands—a high wing monoplane, which gives an excellent all-round view for the passengers. One noticed that most of the rivetting on these machines was done by a vertical spindle rotary rivetter (similar in appearance to a vertical spindle drilling machine) which seemed to do the job quickly, effectively,—and, what is more, silently.

The Zeppelin Organisation.

After taking leave of Herr Koch, one was very kindly given lunch by Herr Milatz, the Berlin Commercial Director of the Zeppelin Organisation. One wonders how many people realise that the group of companies comprising the Zeppelin Organisation form the largest aircraft manufacturing concern in the World, and undoubtedly one of the largest engineering units?

One believes that there are some thirteen firms in it and one—the *Dornier Metallbauten G.m.b.H.*, has seven factories —two in Germany, two in Italy, one in Holland, one in Spain, and one in Japan. One gathers that one is to have an opportunity to see something of the works of this organisation, so withholds any remarks till after this visit.

Tempelhof Organisation.

In the afternoon one was shown around the Tempelhof Aerodrome by the officials of *Deutsche Luft Hansa A.G.* Just as one arrived on the aerodrome Herr Konnecke landed in his Caspar machine, with a Junkers L-5 engine.

This pilot states that he (carrying as a passenger one Count Salm, who appears in the pages of "Gentlemen Prefer Blondes") is going to fly the Atlantic Ocean in this machine. Of course, there is the possibility that he may succeed, but, as his machine is of the type designed for insect-spraying (and thus is by no means fast) and also as his passenger is not a pilot, it is, so one gathered, the general opinion in informed circles in Germany, that his chances of success are not great.

One's own attitude towards flying long distances over the sea in a land machine (if one may be allowed to express it) is best illustrated by a remark, made to a brother officer by a Captain, R.N.—"So-and-so, you *may* not be a damned fool, but *I* think you're one."

To revert to the Tempelhof Field,—the site of this is the old Parade Ground. It is maintained by the Municipal Authorities and *Luft Hansa*. Approach to it is by a private road, for admittance to which the payment is one mark (one shilling). Of course passengers do not pay for admission.

Passengers enter the aerodrome through the main building marked "*Flughafen, Berlin,*" and find themselves in the large hall which is used for ticket, passport, customs examination and weighing.

On the left of this as one enters is the public Post Office, and the Executive Offices of *Deutsche Luft Hansa A.G.* On the right is a fine restaurant where one can have an excellent and cheap meal and see most of the aerodrome.

Passing out of this one walks along a short path through an alley-way in a small building (housing the wireless and meteorological staff), along another covered path, straight onto a wide stretch of concrete—to one's machine.

On the top of the main building, and on each side of the wireless building are open-air restaurants. *These will hold about 8,000 people, and one understands they are full every Saturday and Sunday afternoon.*

When one remembers that there are some seventy-five cities linked up by the *Luft Hansa* system in Germany *alone*, one can understand that they see plenty of flying.

As this aerodrome has been described very often before, one will record just a few of one's impressions.—

Firstly, the extraordinary smartness of the Station and the personnel. With few exceptions, all wear uniform—the messenger-boys wear Glengarry caps and Eton jackets, and the rest of the staff a greenish-grey uniform, except the Police attached to the Aerodrome, who wear their own uniform, plus a silver airscrew on their shoulders. Discipline is good, for presumably the authorities have realised that the essence of a successful flying service, be it military, naval or civilian, is an intelligent iron discipline, with no differentiation between any branches in this matter.

Secondly, the extraordinary cheerfulness of the place. Everybody seems "full out."

Thirdly, that while they use the wind sleeve and "T" indicator for wind direction, they also have a smoke smudge in the centre of the aerodrome. This smoke is obtained by burning tarred and oily paper (so one was told) in a special receptacle. The result is extraordinarily effective; it is easy to see it two or three miles away, as it blows right across the aerodrome. This system is used throughout Germany.

The whole place breathed the characteristic efficiency of *Deutsche Luft Hansa A.G.*, a company which has only had one fatal crash during the whole of its existence.

Homeward Bound.

The next morning one had, sad to say, to return to London, and again through the courtesy of the *Luft Hansa* one was given a free passage back. In the early hours of the morning a very heavy thunderstorm broke over Berlin, with the result that our start was delayed by nearly an hour. The concrete was flooded with water, but one was driven to the door of the machine in a car, so that one started on the trip dry. Incidentally, one hopes that at the new Station at Croydon, arrangements are being made to drain the concrete.

The rest of the passengers were Americans (including two small boys with black and yellow "pork-pie" hats) and just before we started they solemnly closed all the windows and each donned an enormous pair of goggles! The first part of the trip was rather bumpy and the two small boys were sick into their hats.

At Hannover one perjured one's soul by telling them that the weather would be better during the next section. As soon as we took off and experienced a few bumps, they turned round and looked at one with an expression reminiscent of the story of the missionary and his new wife.

He had been in India many years, and despite the fact that his little community had sent him three wives in succession, they had all died of fever. They sent him a fourth and he went to Bombay to meet her. As soon as he saw her coming down the gangway, he raised his eyes and voice to heaven and cried: "Oh Lord! Oh Lord! I have prayed and fasted, and fasted and prayed—and—Oh, Hell! You've sent me *another* red-headed one!"

We landed at Croydon about an hour-and-a-quarter late, as the weather was bad all the way. Incidentally, it would be of interest if air-line operating companies would publish statistics of time-keeping by their machines.

Thereafter, one caught a train to the West of England and finished the day by cycling out to a small Welsh town—thus completing a journey of a thousand miles in one day.

Thus ended a memorable trip, for which one is greatly indebted to one's German friends who gave up so much of their valuable time to allow one to see as much as possible.

THE BERLIN AERO SHOW.

An International Aircraft Exhibition, known in German as "ILA 1928," is being organised in Berlin by the *Reichsverband der Deutschen Luftfahrt-Industrie*, in collaboration with the Berlin Trade Fair Authorities. It will be held from Oct. 7 to 28, 1928, at the Exhibition Buildings, Kaiserdam.

The organisers will be glad to hear from any British firms and other bodies who may be interested. Letters should be addressed:—

Reichsverband der Deutschen Luftfahrt-Industrie:
W.35:
Blumeshof 17:
Berlin.

The Exhibition will be divided into the following groups:—

GROUP I.—Aircraft Industry:—(*a*) *Aircraft*: 1. Aircraft of all description. 2. Aircraft motors. 3. Airship Models. 4. Processes of Manufacture (in special stands). 5. Balloons.

(*b*) *Parts and Equipment*: 1. Propellors. 2. Instruments and Measuring Apparatus. 3. Wireless Telephony and Telegraphy. 4. Wireless Sets. 5. Aerial Photography (Instruments). 6. Parachutes. 7. Wheels for Aircraft. 8. Tyres. 9. Miscellaneous.

(*c*) *Raw Material, Semi-manufactures, and Fuel*: 1. Metals. 2. Wood. 3. Fuel. 4. Various (Cloth, Paints and Varnishes).

(*d*) *Machinery, and Tools.*

GROUP II.—Aerial Traffic:—(a) Statistics on World Aerial Traffic. (b) German Aerial Traffic. (c) Aerial Goods and Passenger Services. (d) Aerial Post. (e) Aerial Photography and Surveying. (f) Ground organisation of Aerial Traffic (Aerodromes, Equipment and apparatus for maintaining services inside and outside aerodromes).

GROUP III.—Aerial Pilots:—(a) Training for sporting purposes. (b) Training for Traffic Pilots (by land and sea). (c) Equipment.

GROUP IV.—Science and Literature (Testing Processes):—Research, Experiment, Testing of Materials.

GROUP V.—Historical Department.


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LANDING BRAKES FOR AIRCRAFT.

The distance which an aeroplane runs after landing and before stopping limits the military and commercial value of aircraft, and increases the danger of landing except on large flat open spaces.

Fitting brakes to an aeroplane to shorten the run, and to stop and hold it if alighting on sloping ground is so obvious that it is at first difficult to understand how and why aeroplanes with brakes are almost unknown. In fact, attempts to fit brakes to aeroplanes were made many years ago. The writer made and fitted an experimental brake to an Avro in 1912, and the idea is certainly older than that.

The earliest satisfactory landing-brake that can be recalled is that on the Short land-bomber of about 1916, which had a four-wheeled undercarriage with band-brakes on the rear wheels. These brakes did shorten not only the landing run but also the take-off, because with the brakes it had not to rely on a heavily-loaded tail-skid to pull the machine up after landing, or to act as a drag when taking-off. Another definite advantage was that the machine did not have to be chocked to run the engine on the ground.

Later still the Westland Limousine, which was in the Air Ministry's Competition for Commercial Aeroplanes in 1920, was fitted with a four-wheeled undercarriage and brakes on the rear wheels. These were quite satisfactory. Thus the absence of brakes from modern aeroplanes seems still more strange.

Both the Short and the Westland machines had four wheels. Brakes were fitted on the rear wheels only. These were more nearly under the centre of gravity than would have been safe had they been the only wheels. When the brakes were on the machine had a tendency to stand on its nose, but this was checked by the front wheels.

Any four-wheeled undercarriage is heavier and of greater resistance than the two-wheeled Vee type. The demand for better performances on Service and Civil aircraft has made four-wheeled undercarriages impossible.

If brakes are fitted to a two-wheeled undercarriage the wheels have to be put much farther forward than is usual, so as to stop the machine turning over forwards. But if the wheels are far enough forward the machine becomes almost unmanageable on the ground. It will swing on the slightest provocation, and no normal rudder will check it.

There has not yet been enough incentive to persuade the British aircraft designer to overcome this difficulty. In America, where both military and civil pilots have to use unprepared landing grounds a good deal more often than they do here, the problem of brakes has received much attention lately. And a simple solution to this difficulty was found as soon as the need for it arose.

This solution is to use the brakes to steer on the ground. The brakes are coupled either to two independent pedals, used instead of the rudder bar for steering on the ground, or they are so interconnected with the rudder bar that turning it puts on one brake and releases the other. A separate lever is used to put both brakes on for landing, but movement of the rudder bar still relieves the brake on one side and pulls it on harder on the other side.

A machine so fitted can be steered more accurately on the ground than any machine without brakes. It does not depend for control on air forces on the rudder, and steering is effective whether the engine is on or off, often vitally important in a forced landing with a dead engine.

The far-forward position of wheels necessary with brakes increases the load on the tail skid, but a tail skid, which is merely a sprag-brake, is unnecessary, and may be replaced by a wheel, giving a better acceleration and so a shorter run.

This difficulty having been overcome, the problem is one of detail design, affecting brakes themselves, the wheels, and the controlling gear. Wheels which will stand hitting the ground at 50 or more miles per hour with the brakes hard on, without either collapsing or shedding their tyres, are necessary, and it is important that the brakes and gear shall add as little as possible to the air resistance of the wheels.

The first step to the rescuscitation of brakes for aeroplanes was taken by the U.S. Army Air Service Engineering Division at McCook Field early in 1924. A number of types of brakes were developed at this establishment.

One brake had as friction surfaces discs nearly flush with the inner face of the wheel fairing. In another an ordinary internal-expanding two-shoe brake, worked by a hydraulic plunger, was used. The brake drum was built into the wheel, which was a complicated assembly of pressed sheet metal, and only a lug to transmit the brake torque to the undercarriage frame projected beyond the wheel. No details of the hydraulic gear are available. In a third brake, three internal shoes were used, but no details of this type are known.

These experiments at Dayton showed that the aeroplane wheel brake was both practicable and useful, and private enterprise in America has now taken up the making of aeroplane brakes, which are now standard on many American machines, military and civil.

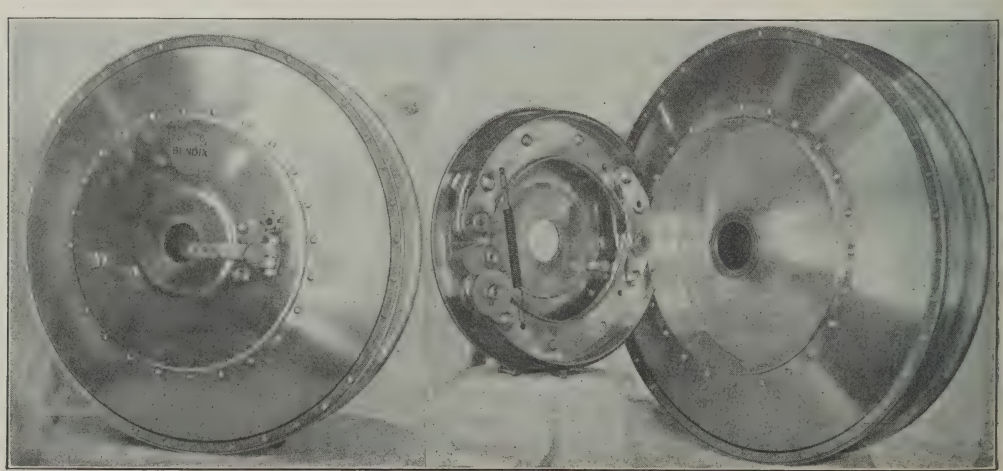
Aeroplane brakes in America have mostly been made by firms who also build motor-car brakes. The only known exception is the Atlantic Aircraft Corporation, builders of Fokker machines, who have fitted some aeroplanes with a brake consisting of a rim, like the belt-rim of a motor-cycle, and a Vee belt which can be pulled up tight on this rim.

The Sauzedde Corporation, Detroit, Mich., make aeroplane wheels and brakes which are standard fitting in the U.S. Air Corps. Their wheels are of the tangent-spoke wire type, with the spokes on the inner face far enough inside the edge of the rim to leave room for brake-drums inside the fairing. The brake-drum (of light alloy) is held to the hub and the two brake-shoes (also of light alloy, fabric faced) are of the "servo" type. That is the drag on the shoes caused by putting on the brake pulls the brake on still further. A disc which closes the brake-drum carries the brake cam, is supported from a flange on the axle, and is fitted with a lug to transfer torque to the undercarriage.

Another firm building aeroplane brakes for the Air Corps is the Bendix Brake Co. of South Bend, Indiana, makers of Perrot type brakes. Mr. Perrot will be remembered as the designer of the Argyll cars, with four-wheel brakes and Burt sleeve-valve engines in 1910.

After experiments this firm decided about a year ago that wheels and brakes must be made as one unit. About the same time a Mr. L. M. Laddon then of McCook Field had designed and tested a new type of disc-wheel intended to contain brakes. The Bendix Company acquired Mr. Laddon's rights in this wheel and have designed for it a brake of the servo type with two expanding shoes.

These wheels are now being made in four sizes, and a fifth size, suitable for the very heaviest aeroplanes, will soon be on the market. They are both light and strong. The 30 in. x 5 in. wheel, with 12 in. brake drums, for machines up to 3,500 lbs. weight, weighs 13 lbs. without the brake, and 22 lbs. complete. This wheel has been tested to 13,000 lbs. load radially and 4,000 lbs. side-load, applied at the rim.



BRAKES FOR AEROPLANES.—The Bendix wheel and brake. On the left the assembled unit from the brake side, showing the operating lever. On the right the brake-shoe assembly is shown removed from the brake-drum.

SHORT
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Other sizes now available are 32 in. x 6 in. for machines up to 5,000 lbs., 36 in. x 8 in. for machines up to 9,000 lbs., and 44 in. x 10 in. for machines up to 14,000 lbs. The new large size is to be 44 in. x 12 in.

The main component of the Bendix wheel is a combined hub and brake-drum made from a heat-treated casting of aluminium alloy. In the larger wheels this casting has a flange above the edge of the brake drum to which the tyre rim is rivetted. In smaller sizes a disc of sheet metal is fitted between this flange and the rim.

On the other side of the wheel the rim is held by a sheet-metal disc rivetted to the rim and secured to the hub by set-screws. A reinforcing ring of semi-circular section is let into a groove round each side of the rim and is rivetted up with the disc and rim.

The brake is like the Perrot motor-car brake except that duralumin or similar light alloys are used for all but the pivot pins and cam.

The brake is enclosed by a back plate bolted to a flange on the axle. A special bolt on this plate takes a lug which transmits braking torque to the under-carriage. The shaft for the brake cam projects through the back plate and carries a short lever for the operating cables.

Photographs herewith give a clear idea of the arrangement and details of this well-thought-out brake system.

A number of British aircraft designers have designed brake gears for aircraft, and there are several British experimental brakes undergoing tests. No detailed information as to these is yet available for publication. Some of these brake systems have entirely novel features of a very promising nature, and it is believed that when such brakes are demanded in this country there will be no difficulty in getting brakes as effective as the American types.

There are several important points to be considered in the fitting of brakes to any machine. Some people (experts as usual) object to brakes, because on wet grass they lock the wheels, which slide just as fast as if they were rolling. But there are some days in the year when even English aerodromes are dry. And some English aeroplanes are used in dry countries.

The brake control connections must be arranged so that the travel of the undercarriage shock-absorbers does not interfere with the brake control.

There is also room for variation in the methods of control. Two separate pedals, or a single brake lever with connections so coupled to the rudder-bar as to give steering control, may be used. The control connections may be either mechanical—as by cables or rods—or hydraulic.

One good scheme is to interconnect the brakes with the tail-skid so that the harder the skid bears on the ground the harder the brakes are put on. If the machine tends to nose over, the lifting of the tail-skid releases the brakes and the machine is free to roll forward some more.

These are minor points. The important matter is that aeroplanes can be fitted with brakes which are entirely satisfactory, and that in the near future brakes will be recognised as necessary.

PALMER BRAKES.

For some time past the Palmer Tyre Company have been working on a wheel with a hub brake. A set of these is now being fitted to a Vickers Virginia (Napiers).

Each brake can be applied separately, so that they can be used to turn a machine quickly to avoid an obstruction, or for ordinary steering at low speeds.

ARE AERO-ENGINES RELIABLE?

The Royal Aeronautical Society, etc., held a house dinner on Tuesday, Nov. 15, followed by an informal debate on the question, "Are Aero-Engines Reliable?"

The debate was opened by Mr. F. A. Foord, of the Air Ministry, who sought to show that they are. He supported his case by statistics based on Service experience showing that the average running time, of all classes of engines, between breakdowns, was now in the neighbourhood of 500 hours and was increasing, and that this showed a mileage between failures which compared excellently with that achieved by any other form of transport.

The case against the reliability of the aero-engine was to have been opened by Mr. A. L. Chorlton, but rather than maintaining that the aero-engine was unreliable Mr. Chorlton sought to show how many excuses there were for it if in fact it were so. The blame—if any—for unreliability lay with the aircraft constructor who asked too much of aero-engines.

In the general debate that followed, most of the engine experts followed Mr. Chorlton's lead, and the only aircraft constructor who spoke, Mr. Handley Page, backed Mr. Chorlton by saying that if the aircraft constructor wanted more reliability, he must get it by finding out how to make aeroplanes that needed much less power than was used by those now existing.

The general opinion of the assembly seemed to be that aero-engines are actually very reliable indeed, but that they are not reliable enough for the service which they are asked to undertake.

AEROPLANE INSTRUMENTS.

On Thursday, Nov. 24, Major C. J. Stewart, O.B.E., M.I.Mech.E., F.R.Ae.S., M.I.A.E., of the technical Staff of the Royal Aircraft Establishment, read before the Royal Aeronautical Society (with which is incorporated the Institution of Aeronautical Engineers), a paper on Modern Developments in Aircraft Instruments.

In this paper there are many technical data as to the design and construction of modern aeronautical instruments

The paper itself, already highly compressed, is exceedingly long and could not usefully be got into any space available in The Aeroplane. It will be found very valuable to all concerned with the design and production of aeronautical instruments, and all such should read it in the original form when it appears in the Journal of the Royal Aeronautical Society (with which, etc.).

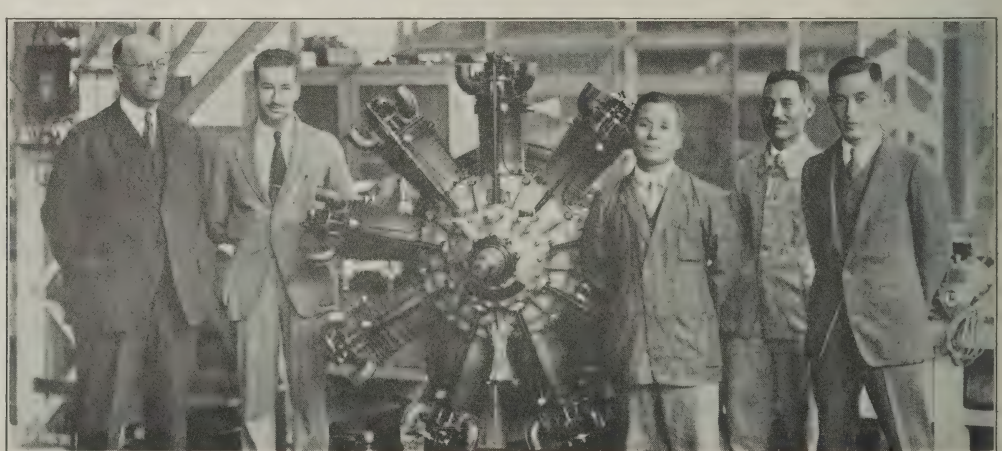
THE AIRWORTHINESS DANCE.

The dance organised by Mr. R. J. Goodman Crouch and the Airworthiness Department was, like most things under that organisation, a very distinct success. It took place in the Artillery Theatre, Aldershot, and Sidney Firmin's London Radio Dance Band was the motive power.

Many people from London were prevented from reaching Aldershot by the fog. Quite where the fogbound would have been put if they had arrived one does not know, for the floor was "playing to capacity" as it was.

Proceedings proceeded until the wee sma' hours. Most of the Aeronautical Community was present, and nobody dropped the bomb to which reference was made last week.

Mr. Crouch told one that the Gunners, who own the Artillery Theatre, did everything in their power to help the promoters of the dance. A hit, a very palpable hit.—G. D.



THE JAPANESE JUPITER.—Here is seen the first Bristol Jupiter built in Japan, under licence, at the Works of the Nakashima Aircraft Co., Nishiogikubo, Tokyo. On the left are Capt. A. C. Burgoine and Mr. F. Hopes of the Bristol Aeroplane Co. Ltd., who went to Japan about a year ago to superintend the construction of the first engine and to show our late allies the Bristol methods of construction. On the right of the picture are Mr. Sana, Mr. Ogawa and Mr. S. Akabane of the Nakashima Aircraft Co.



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"One does not find 'good' or 'serviceable' machines at Bristol. There they tolerate only those that are perfect."

Dr. Oliver St. J. Gogarty, in "The Irish Statesman." October 22, 1927.

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USING A AND P COLD DRAWN WELDLESS STEEL TUBES



The "Bristol" Bloodhound, fitted with a "Bristol" Jupiter Series VI engine, carried out an endurance test of 25,000 miles At the conclusion, both the aeroplane (in which Accles & Pollock Tubes are used) and the engine were in perfect condition

AN ENDURANCE test such as is referred to here, calls for perfection in every part of the aeroplane, with maximum strength and minimum weight

The tubular work, in particular, is subjected to enormous strains—compression, torsion, tension, etc

"Ordinary commercial tubes" are useless for such purposes The highest grade of steel must be used, entailing skilled work and special care in drawing the tubes

These tubes are subjected to test at every stage of production, and must finally pass the high standard set by the Aircraft Inspection Department

This is the kind of tubular work that A AND P excel in

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MAKERS & MANIPULATORS OF WELDLESS STEEL TUBES

ACCLES & POLLOCK LIMITED

OLDBURY BIRMINGHAM

ANOTHER ROTATING WING MACHINE.

A number of paragraphs in the daily Press recently have announced that the Air Ministry have acquired the designs of, and the right to build, a new type of aircraft with rotating wings. This new aircraft, known as the "Helicogyre," is the invention of an Italian engineer, Signor Vittorio Isacco. This report has been confirmed by the Air Ministry.

Apparently no machine of the type exists at present, and the Air Ministry have obtained no more than the right to build an experimental apparatus using Signor Isacco's invention or ideas.

The very vague accounts which have appeared as to this new machine state that it consists of a number of wing surfaces, rotating round a central shaft and driven by engines and airscrews carried on the rotating wings themselves. That is to say, the Helicogyre is just a series of small aeroplanes each with its own power plant, constrained to fly in circles round the central shaft.

There is no doubt that a machine of this type is perfectly possible, and that a machine which could ascend and descend vertically could be built on these lines. And as a matter of fact it seems probable that the direct lift machine which—as recently announced in this paper—is to be built by the Curtiss Aeroplane and Motor Co. in the United States, is essentially of the same class,—which as a class is of long pre-war vintage.

In the Helicogyre a separate engine and airscrew is to be used to give horizontal motion, whereas in the machine contemplated by the Curtiss Co. horizontal motion is to be given by inclining the axis of rotation of the whole wing system in the desired direction.

It is difficult to believe that any system of this sort can give a useful performance in any way equal to that which a simple aeroplane would give, but the lure of vertical ascent and descent is obviously powerful in places far removed from the Technical Section of our own Air Ministry.

UBIQUE.

Mr. F. E. N. St. Barbe, business manager of the De Havilland Company, is now in Canada making arrangements for the construction of Moths there, on similar lines to the arrangements which have been made in Australia.

NEW MOTH PERFORMANCES.

Some very interesting experiments are being made at Stag Lane with a standard Moth fitted with the new D.H. engine. Performance figures of this machine and the price of the D.H. engine are awaited with extreme interest.

The Tiger-Moth is becoming daily more and more the perfect streamline. The pilot has now been covered in completely, and the top speed is expected to be all of 200 m.p.h.

AVIANS OVERSEAS.

Bowring Brothers, one of the most important sealing fleet owners in Newfoundland have purchased an Avro Avian for use in co-operation with their sealing fleet. It will be remembered that some years ago they acquired an Avro Baby seaplane, which had been built for the late Sir Ernest Shackleton's ill-fated Antarctic Expedition, and this machine, equipped with skis, has been operated very successfully by the company on seal-spotting work every season. It is now to be joined by the new Avian which will also be fitted so that it can be equipped with skis for use over snow. It is to be painted bright red to make it conspicuous in the event of a forced landing.

Two Avro Avians have been purchased by Wings, Ltd., who are to operate a Light Aeroplane Club at Broken Hill, N.S.W.

Within the next few weeks further machines will be shipped to the Argentine and Uruguay.

WIDGEONS IN AUSTRALIA.

The following cable has been received by the Westland Aircraft Works from Brockway Motors Ltd. of Sydney, N.S.W. :—

Westland won prize fastest time Brisbane Derby Nov. 12. Course 45 miles triangular total time 23 min. 51.25 sec. over 113 m.p.h. Fastest lap 15 miles 117 miles per hour. Piloted by Kent.

The name of the race is the Queensland Aerial Derby.

Doubting whether even a Widgeon could put up such a speed with such power, the Westland company cabled to the Brockway people asking for confirmation of the figures. A message has come back that the figures are correct and officially checked.

Evidently there is something in the air of Australia which suits the Widgeon and the Cirrus engine. Probably the reason is that the Widgeon has never been tried out in really hot weather in this country, seeing that we have never had a hot day this year. Air-cooled engines up to something over boiling-point always perform better at high temperatures, and though aeroplanes may not climb as well, like any other vehicle they are always faster in hot weather.

Incidentally, it is interesting to note that immediately after the arrival of the Westland Widgeon in Australia Wing Cdr. Wackett, R.A.A.F., who has for long been regarded in some quarters as the chief technical expert in the employ of the Australian Government, proceeded to register the name Widgeon for all aircraft in Australia—that being the name which he gave to the two curious flying-boats which were built to his own design, the first of which finished in a nose-dive in the water, and the second of which is still waiting to put up a performance.

In consequence of this quick move the Widgeon will be known officially in Australia as the Westland III. Doubtless that will not stop anybody from realising that it is a Widgeon which flies as a Widgeon should.

One suggests that as the Widgeon is a kind of duck, the Wing Commander might alter the name of his machine to The Quackette.

THE FLIGHT TOWARDS AUSTRALIA.

Apropos the flight which is being attempted by Mr. W. N. Lancaster and Mrs. Keith Miller from England to Australia on an Avian it is worth pointing out that this is by far the biggest flight ever attempted by a light aeroplane which is actually being used as a two-seater, with the extra load of additional petrol, spares, etc., being carried in addition to the weight of the passenger.

In this connection the following details of the weights of the actual machine may be interesting :—Weight empty 930 lbs., weight of pilot 154 lbs., weight of passenger 114 lbs., 56 gals. of petrol 420 lbs., 4 gals of oil 40 lbs., spares 34 lbs., personal kit 12 lbs., maps, 12 lbs., firearms and ammunition 8 lbs., and desert rations 2 lbs. Total load 796 lbs. Total weight of machine fully loaded 1,726 lbs.

When the machine left England the total petrol capacity was 43 gallons, but at Baghdad an additional tank of 13



ARMY CO-OPERATION.—The Avro Avian (Cirrus) "Red Rose" at Heliopolis, Cairo, on Oct. 29. From left to right: Mr. B. C. H. Kimmins, R.H.A., Sq. Ldr. V. S. Erskine Lindop, Flg. Off. R. Legg, Mrs. Keith Miller, Sq. Ldr. A. S. Morris, O.B.E., Mr. J. V. D. Radford, M.C., R.H.A. (Unfortunately Mr. Lancaster had vanished momentarily while the photograph was being taken.)

HANDLEY PAGE

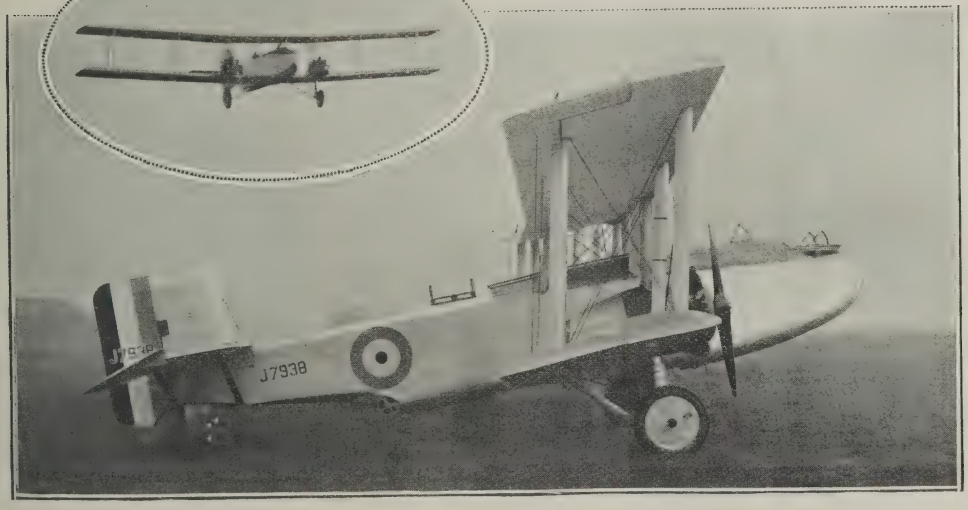
SLOT AND AILERON CONTROL.

"The invention of the slot and aileron control represents the most successful attempt . . . . . to increase the efficiency of the aileron."

"The Spinning of Aeroplanes"
Bryant and Gates,
Aeronautical Research Committee.
Reports and Memoranda No. 1,001, p. 103.

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KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

gallons capacity was made and fitted under the passenger's seat.

The "Red Rose," and *not* "Red Nose" as the American journal *Aero Digest* has erroneously called it, and her crew are at present at Bushire with magneto trouble. They flew from Ur of the Chaldees on Nov. 26 where they had been held up since Nov. 10 with a damaged magneto, but they have had further trouble and are now awaiting new magnetos which are being sent to them by the R.A.F. at Basra.

AN INTERESTING APPOINTMENT.

Flt. Lt. Louis Paget has recently joined the staff of the Westland Aircraft Works as test pilot. One gathers that his main object in life at the moment will be to demonstrate the Widgeon. The firm are going ahead with this type, which many people think is the ideal light touring aeroplane, owing to the wonderful view which the pilot and passenger have under the parasol wings and because of its high speed.

Flt. Lt. Paget was well known in the R.A.F., especially in the Middle East. Before joining the R.F.C., during the War, he held a commission in the Regular Army.

THE FLYING CLUBS.

In the House of Commons on Nov. 24, in reply to a question by MAJOR BRAITWAITE, the UNDER-SECRETARY OF STATE FOR AIR said that he was aware that some of the light aeroplane clubs were in financial difficulties but the subsidies and other assistance which the Air Ministry could grant were definitely limited by the terms of the agreements with them and he was afraid that in view of the urgent need for economy there was no possibility of their being relieved of their existing liabilities by means of further grants from public funds.

[There seems no good reason why the British Taxpayer should pay the debts of Clubs which have already drawn a handsome subsidy. If any Club is in such low water that it cannot be saved by local patriotism it had better go out of business.—C. G. G.]

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, W. 1.]

Report for week ending Nov. 27.

During the past week the weather has practically stopped all flying at Stag Lane.

On Friday there was a slight break in which there was flying for 1 hr. 50 min. by Messrs. R. Sanders-Clark and P. W. Hoare.

Christmas Closing.—The Club will be closed on the evening of Thursday, Dec. 22, and will reopen on the morning of Thursday, Dec. 29.

The Lancashire Aero Club.

[Sec., Woodford Aerodrome, near Stockport.]

Report for week ending Nov. 26.

Flying Time 13 hr. 40 min. *Instruction* 6 hr. 35 min. *Soloists* 4 hr. *Passengers* 1 hr. 50 min. *Tests* 1 hr. 15 min. *Instruction.*—*With Mr. Brown*—Messrs. Heath, Hall, Tweedale, Ellis, Allott, Gort, Browning, Davison, Benson, Pattricoux, Miss Brown. *Soloists (under instruction).*—Messrs. Davison, Gerrard and Meads. *Pilots.*—Messrs. Slater, Costa, Rowley, Michelson, Twemlow and Harber. *Passengers.*—*With Mr. Lacayo*—Messrs. Benson, Forshaw and Hartley. *With Mr. Costa*—Messrs. Callaghan and Gousa. *With Mr. Twemlow*—Miss Lingard and Mr. Morris.

Notes.—On Saturday, while flying Avian QL on a cross-country trip, Mr. Lacayo suddenly found his airscrew ceasing to screw. Alighting with excellent judgment in a good field he examined the engine and found that a connecting road had sheared and after making a nasty hole through the cylinder skirt and upper half of the crank-case had continued its career of crime by punching another hole through the bottom half of the crank-case on the opposite side. Whereupon, after remarking, "Come, come, Mr. Cirrus," or words to that effect, he returned home by road.

On Sunday we were indebted (for once!) to the weather for relieving the monotony of a quiet afternoon. The weather was thick and unpleasant throughout, but just after Mr. Crosthwaite had taken off on a solo flight it proceeded to get worse. And then worse. One forgets just how many attempts were made before a successful alterrissage was effected, but at any rate it must have lasted quite long enough to convert any Superior People on the aerodrome who had decided that flying was dull.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Nov. 27.

Flying Time 9 hr. 20 min. *Instruction* 3 hr. 55 min. *"A" Pilots* 3 hr. 25 min. *Passengers* 1 hr. 30 min. *Tests* 30 min. *Instruction.*—*With Mr. Parkinson*—Messrs. Hayton, Dickinson, Griffiths, Fairless and Dr. Alderson. *"A" Pilots.*—Mrs. Heslop, Mr. R. N. Thompson, Mr. C. Thompson, Mr. F. L. Turnbull, Mr. D. Wilson. *Passengers.*—*With Mr. C. Thompson*—Mrs. Heslop. *With Mr. Turnbull*—Mr. Davidson.

Notes.—With flying possible on only three days of the week, owing to very bad weather, and only one machine on service, the disappointing total of nine hours is all that could be managed. Mr. Parkinson made two test flights, of about 20 minutes' duration, in Mr. Robertson's Avro, with the owner as passenger, in addition to the Club's total.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Nov. 19.

Flying Time 9 hr. 40 min. *Instruction* 7 hr. 25 min. *Soloists* 1 hr 45 min. *Passengers* 30 min. *Instruction.*—*With Mr. Beck*—Messrs. Ramsden, H. Crowther, A. Crowther, Collins, Ellis, Clayton, Batcock, Miller, Brown, Humphries, Jackson, Bell. *With Mr. Stockbridge*—Mr. Ostler. *Solo Instruction.*—Messrs. D. Atcherley, Ellison. *"A" Pilots.*—Messrs. M. B. Lax, Mann, Dawson. *Passengers.*—*With Mr. Stockbridge*—Miss Whitaker.

Notes.—This week again the weather has seriously interfered with flying.

In the last fortnight one of our Bluebirds has been on exhibition in a motor showroom in Leeds, and has been of great interest to the public, and also a means of interesting new members.

On Saturday Mr. Parkinson brought Capt. Lamplugh from Newcastle, and as there was half a gale blowing, it was considered better to put the machine away, and not attempt to fly it back until Monday. Newcastle's loss for the week-end was Yorkshire's gain.

Report for week ending Nov. 26.

Flying Time 7 hr. 5 min. *Instruction* 5 hr. 35 min. *Soloists* 1 hr. *Passengers* 30 min. *Instruction.*—*With Mr. Beck*—Miss Watson, Messrs. Jackson, Brackenbury, Clayton, Crowther, Ellis, Hepworth. *Solo Instruction.*—Mr. Ellison. *"A" Pilots.*—Messrs. Brackenbury, Lister, Wood, Norway. *Passengers.*—*With Mr. Beck*—Miss Stevenson, Mr. Shaw. *With Mr. Brackenbury*—Mr. Thompson. *With Mr. Wood*—Mr. Ellison.

Notes.—Our appallingly low hours this week are due to the fact that flying has only been possible on two days, as we have been utterly and completely fogbound the rest of the week. Astonishingly bad luck, for the visibility on the aerodrome has been less than 50 yards whilst three miles distant the country has been bathed in brilliant sunshine.

On Wednesday, Mr. Beck took G-EBRG to be fitted with a new type Genet engine and collected G-EBRF thus equipped which shows a marked improvement on the previous type. The "Clubhouse" rumour grows stronger every day and it is hoped that early in the New Year this will have developed into an accomplished fact.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Nov. 26.

Flying Time 6 hr. *Instruction.*—*With Mr. McDonough*—J. Brewin, R. Darlington, S. Duckett, G. Robson, E. Wynn. *Soloists (under instruction).*—S. H. Smith, R. Bednell, H. J. Willis.

Notes.—Low clouds and fog restricted flying.

The Hampshire Aeroplane Club.

[Sec.: H. J. Harrington, Hamble Aerodrome, Southampton.]

Report for week ending Nov. 27.

Flying Time 6 hr. only, due to fog. *Soloists,* Mr. Baynes, who put up a very good solo performance.

Notes.—On Friday Lady Bailey flew down and spent the day with the Club. On Saturday night a Dance was held in the Club House.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Nov. 27.

Flying Time 6 hr. 30 min. *Instruction.*—*With Mr. Lines*—Messrs. J. Morse, R. F. Potter, H. Girling, A. Barker, N. Brett, G. F. Surtees. *Soloists.*—W. P. Cubitt, W. H. Ramsay, R. F. Moore, H. Pank, F. Gough. *Passengers.*—Mrs. R. Moore, Mr. J. Morse.

Notes.—Seasonal weather prevails, but our little batch of actives remain staunch. The extension of area of flight to a 25-mile radius is greatly appreciated and will undoubtedly induce members to keep the air longer.

One would like to exchange ideas, etc., with "Writers-Up" of other clubs, we find it very difficult to keep our members together these dull days, so any suggestions would be appreciated from the older clubs.—F. G.

[Splendid suggestion! Brief notes on the subject will be published in THE AEROPLANE, if anybody feels inclined to send them along. Club members, as well as Secretaries, are invited to shoot off their brain-waves.—C. G. G.]

The Bristol and Wessex Aeroplane Club Ltd.

[Sec.: Lt.-Col. J. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Nov. 26.

Flying Time 12 hr. 35 min. *Instruction* 7 hr. 10 min. *Soloists* 4 hr. 30 min. *Passengers* 55 min. *Instruction.*—*With Mr. E. B. W. Bartlett*—Messrs. A. E. Arnold, P. H. H. Bryan, T. H. Clarke, L. H. Roberts, H. A. Tiarks, W. R. Walwyn, Hon. P. L. Bathurst. *Soloists (under instruction).*—Messrs. Hon. H. C. H. Bathurst, A. H. Downes-Shaw, R. A. Hall, S. K. Jopp, L. H. Roberts. *Passengers.*—*With Mr. Bartlett*—Miss Burnside, Messrs. L. W. Putman, Mrs. Moule.

Notes.—During the week three members have qualified for their "A" Licence. These are the first members of the Club to qualify and we offer them our congratulations. They are Hon. H. C. H. Bathurst, Mr. A. H. Downes-Shaw, our chairman, and Mr. R. A. Hall.

The weather has been very bad during the week—no flying was possible on Monday and Wednesday.

The East Kent Flying Club.

[Sec.: R. Dallas Brett, 114, High Street, Hythe, Kent.]

An Inaugural Meeting of the East Kent Flying Club was held at the Town Hall, Hythe, on Nov. 23, with Major F. W. Butler in the Chair. Mr Brett explained the purposes of Flying Clubs and the general scheme for forming the Club as a limited company. He explained that the Club had the following assets:—

(A) The use of the finest aerodrome in England at Lympne, with accommodation for three aeroplanes, for the nominal rent of £5 per annum. (B) The names of eighty-five people who wish to join as active flying members, and of seven who wish to help as ground members or shareholders. (C) A small sum of money to meet preliminary expenses. (D) The goodwill of the most enterprising and far-sighted people in East Kent.

The Club needed £1,000.

The Meeting approved in principle the method of organising the Club and the appointment of a General Committee to get it together. The following were appointed Members of this Committee:—Major F. W. Butler, last Mayor of Hythe, Mr. Councillor A. Dallas Brett of Folkestone, Mr. H. E. Twaites, Manager, Barclays Bank, Hythe, Mr. R. Dallas Brett of Hythe, Mr. P. D. Baker of Ashford, late

R.A.F., Mr. T. A. M. Lewis of Postling, late R.A.F., Mr. J. A. Somerset Webb of Ashford, Mr. F. D. Little of Folkestone, Mr G. E. Took of Dover, Mr. W. H. Evernden of Faversham, late R.A.F., and Mr. M. S. Faraday of Canterbury, late R.A.F.

Sir Charles Wakefield was elected President of the Club, Mr. Brett Secretary, Mr. Twaites Treasurer.

Notes.—On Friday, the 25th, Mr. Charles Blackburn arrived at Lympne Air Port in his Blackburn Bluebird, Genet engine, piloted by Mr. Blake. He had dropped in to see the members of the E.K.F.C. while on his aerial tour of England. Mr. Blackburn demonstrated the machine to several members and Messrs. Little, Lewis, Drake and R. Dallas Brett were given a ten minutes' flight each to try the machine out.

The general conclusion was that it was a very pleasant little aeroplane with the phenomenally low landing speed of 35 miles per hour. The side-by-side seating is exceedingly comfortable, and conversation can be carried on without the use of telephones.

While the Blackburn was at Lympne, Mr. Reeves arrived in a de Havilland Moth, which he was delivering to Rome for the *Regia Aeronautica*. He filled up with petrol and proceeded. Shortly afterwards a Danish pilot arrived in another Moth and also filled up, while a Farman Goliath of the Air Union also landed; altogether it was quite an interesting morning.

The Tees-Side Aero Club.

[Joint Hon. Secs.: Flg. Off. J. N. Ogilvie and Harry W. Moss, County Bank Chambers, Middlesbrough.]

At a Committee Meeting on Nov. 24, several new names for the Committee were introduced, proposed, seconded and carried unanimously. The Committee now consists as follows:—

President, Dr. T. M. Body; Vice-President, Norman Sadler, Esq.

Joint Hon. Secs., Flg. Off. Ogilvie, R.A.F., and Mr. Harry W. Moss. Treasurer, Mr. Charles Hamer, A.C.A.

Committee: Messrs. Jeffrey Dixon, J. Fowler Harrison, G. Shaw, Frank Hird, S. Robertson, C. W. B. Ridley, E. Peirce, Bishop (R.A.F.), W. Davison, Capt. Black (Ex-Pilot), Chas. W. Lofthouse (Ex-Pilot), Rev. T. B. Clifford (R.A.F.), William B. Thompson, Jr., H. O. Barker (Pilot).

We have received a cheque, £20, from Sir Charles Wakefield as a donation towards our initial fund. Also Lord De L'Isle and Dudley has accepted our invitation to become one of the Club's Patrons.

Mr. H. V. Barker, of Middlesbro' (a Committee man), who is the proud possessor of the "A" and the coveted "B" licence, has offered his services free for the first three months as instructor.

Our list of prospective members now totals 160, including a number of ladies. It was suggested and seconded that each member of the Committee give our Treasurer £1 towards petty expenses, i.e., Stationery, Stamps, Books, etc., and if the Club proves successful, then each man will have his £1 returned. In the event of the Club breaking up on account of insufficient funds, this £1 will be regarded as lost. This idea is, that if we could not get the required capital, the Patrons' money (which will not be touched) will have to be returned in full. Our Treasurer is now collecting these £1s.

It is to be hoped that we can get sufficient patrons and raise £3,000 within the next few months.

The Scottish Flying Club.

[Sec.: Harry W. Smith, 101, St. Vincent Street, Glasgow.]

The activities of the Club have increased by leaps and bounds during the last few weeks. The first Moth was delivered about a fortnight ago and was placed on show in one of Glasgow's biggest warehouses where it was visited by many hundreds of interested citizens who, for the first time, had a close-up view of one of these small machines.

By the courtesy of the Lord Provost of Glasgow, a meeting was called in the City Chambers for the purpose of drawing the attention of the citizens to the Club and its objects and to ask for their support. A considerable sum of money was collected, and subscriptions continue to flow in, so that it is hoped that in a short time our second Moth may be purchased.

The membership is increasing daily and now stands at over 200, of which 120 are Pilot Members. Among its private members there are two who own their own machines, namely the Marquis of Douglas and Clydesdale and Flt. Lt. Drew.

At the last meeting of the Executive there were elected:—

President: The Right Hon. the Lord Weir of Eastwood, P.C., LL.D.

Chairman: Air Commodore J. G. Weir, C.M.G., C.B.E.

Vice-Chairmen: Harold E. Yarrow, C.B.E., George F. Luke, F.R.G.S., G. C. Walker.

Executive Committee: K. McIntosh, A. M. Dunlop, Prof. J. D. Cormack, C.M.G., H. R. Murray-Phillipson, A. N. Kingwill, A.M.I.Ae.E., B. R. Millar. Hon. Secretary: Harry W. Smith.

The Club has been fortunate in securing the services of Flt. Lt. William Jones (well known in the Service as "Red 'ot Jones") as their pilot instructor. The opening will take place on Dec. 3, when the Committee hope to have about six machines flying.

On Dec. 9 the Club is giving a Ball to assist in raising funds.

(Signed G. F. LUKE, Chairman of Propaganda and Publicity Committee.)

CANADIAN CLUBS.

The Edmonton and Northern Alberta Aero Club has been assured of two D.H. Moths by the Canadian Government, to be delivered in April, 1928.

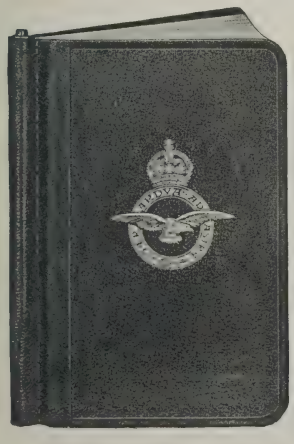
In the meantime the Club has obtained two ground instructors, Messrs. S. A. Yorke and Francis Dickens, and their intention is to hold a series of thirty lectures on aviation which will last until the Club gets its flying equipment.

The Club already has about 90 members who are attending the lectures and steps are being taken to obtain a flying instructor and a ground engineer.

The Air Force Club of British Columbia will undertake the operation of the Light Aeroplane Club in Vancouver, and in conjunction with the City Council, has chosen a suitable site for a municipal aerodrome at the Dominion Rifle Range on Lulu Island. This site has been approved by Flt. Lt. Cowley, R.C.A.F., the Canadian Controller of Civil Aviation.

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 15; Tuesday, 15; Wednesday, 9; Thursday, 8; Friday, 12; Saturday, 1; Sunday, 0.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 26, passengers 107, freight 8 tons.

AIR UNION:
Paris—London: Machines 12, passengers 32, freight 14 tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 9, passengers 12, freight 2¼ tons.

SABENA:
Brussels—London: Machines 6, passengers 5.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 7, passengers 7.

PRIVATE:
Machines 0, passengers 0.

Total number of trips by British Machines, 26, carrying 107 passengers. Foreign Machines 34, carrying 55 passengers.

COMPARATIVE FIGURES.

Week ending Nov. 27:
Machines, 60; Passengers, 162; Crews, 109; Total personnel, 271.
Corresponding week, 1926:
Machines, 55; Passengers, 114; Crews, 68; Total personnel, 182.
Corresponding week, 1925:
Machines, 36; Passengers, 79; Crews, 41; Total personnel, 120
Corresponding week, 1924:
Machines, 75; Passengers, 213; Crews, 98; Total personnel, 311
Corresponding week, 1923:
Machines, 15; Passengers, 24; Crews, 23; Total personnel, 47.
Corresponding week, 1922:
Machines, 49; Passengers, 120; Crews, 94; Total personnel, 214.
Corresponding week, 1921:
Machines, 19; Passengers, 13; Crews, 30; Total personnel, 43.
Corresponding week, 1920:
Machines, 39; Passengers, 58; Crews, 45; Total personnel, 103

Croydon Notes.

The Handley Page Hampstead with three Bristol Jupiter engines, belonging to Imperial Airways and severely damaged in a forced landing last Autumn has now been repaired and completely overhauled.

This machine was flown for tests, first with wooden and later with Fairey metal airscrews, by Major Brackley. With either type of airscrew the take-off and climb was remarkable for a commercial machine—so much so as to suggest that it could well do without the central engine.

No information has been issued as to the relative performance with the two types of screw, but there is good reason to believe that the metal screw will be used for an extended test in service.

The weather—and very little else—continues to be the main subject of interest at Croydon. On Wednesday, when Central London was in complete darkness for the whole day, Croydon remained bright and clear, and apart from some delay of the earlier departures to await the clearing of mist over the hills there was no interference with traffic.

On Thursday when London was comparatively clear, low clouds over the route from Croydon to the coast were very troublesome. They closed down onto the ground as the day advanced and several machines squeezed into Croydon below their only by a very narrow margin.

One Farman Goliath belonging to the Air Union, outward bound from Croydon, was forced down by the clouds at Yaldham, between Sevenoaks and Maidstone, ran into soft ground and turned onto its nose. The fore part of the fuselage was wrecked and the pilot was so pinned into his cockpit that it took half-an-hour to release him. Fortunately he was not seriously injured, and neither of the two passengers nor the mechanic was hurt.

A new version of the Fokker F.VIII with two Jupiter engines is likely to appear on the K.L.M. service early in 1928. This machine will differ from the unfortunate H-NADU which was used last Summer.

The passenger cabin will be longer and narrower, seating two abreast instead of three. The pilot's cockpit will be ahead of the wing instead of below the leading edge, and a new and longer tail will be used.

The original arrangement of passengers three abreast was disliked by most travellers, and the reversion to two seats in each row means a smaller body and consequently less resistance. A higher performance than that of the original F.VIII is expected together with other practical advantages.

A WINTER TOUR BY AIR.

Details of the Winter Tour by air which, as announced in THE AEROPLANE of Oct. 12, is projected by Imperial Airways have now been published. The Tour will start from London on Jan. 31, 1928, and will end at the same place on March 5 (D.V. and W.P.). The machine used will be one of Imperial Airways' three-engined Armstrong-Whitworth Argosies (Jaguar engines).

The route, day by day, will be (1) London-Paris, (2) Paris-Bordeaux-Biarritz, (3) Biarritz, (4) Biarritz-Perpignan-Barcelona, (5) Barcelona, (6) Barcelona-Alicante-Malaga, (7) Malaga-Granada (by car), (8) Malaga-Seville, (9) Seville, (10) Seville-Tangier, (11) Tangier-Casablanca, (12) Casablanca-Marrakech, (13) Marrakech-Fez-Oran, (14) Oran-Algiers, (15) Blidah (by car), (16) Algiers-Biskra, (17) "Garden of Allah" (by car), (18) Biskra-Tunis, (19 to 21) Tunis and Environs (by car), (22) Tunis-Catania (Sicily), (23) Catania-Naples, (24) Vesuvius (car, etc.), (25) Pompeii (by car), (26) Naples-Rome, (27 and 28) Rome, (29) Rome-Venice, (30) Venice, (31) Venice-Pisa, (32) Pisa-Marseilles, (33) Marseilles, (34) Marseilles-Lyons-Paris, (35) Paris-London.

The inclusive fare is 435 guineas. This covers all transport by air or road from Airways House back to Airways House, including accommodation at named hotels of the most luxurious type, all meals from lunch on the first day to lunch on the last day of the trip, tips to hotel servants, car drivers, porters, etc., admission fees to places visited, and the free transport of a total of 225 lbs., including the passenger. This means about 60 lbs. of luggage per passenger of average weight and the return charges for the transtransport of two extra suitcases, one each to Algiers and to Naples (these are not carried on the aeroplane).

The fare does not include the cost of drinks of any kind taken either on the aircraft itself or in hotels.

No other means of transport could possibly cover this itinerary giving passengers the same, or anything like the same, facilities for enjoyment in so short a time, and there is doubt whether it could be covered by any means at a much lower total cost. The fare, of course, is high for a little over a month of travel, but compared with the charges made for some of the well-known luxury cruises by steamship it is relatively moderate, and to those fortunate enough to be able to afford such cruises this new venture should prove exceedingly attractive.

Imperial Airways Ltd., of Airways House Ltd., Charles Street, Lower Regent Street, S.W.1, have prepared an excellently illustrated booklet descriptive of the tour, giving complete information of the itinerary and all information necessary to would-be passengers. This can be obtained post free from Airways House, or from any of the regular tourist agencies.

EXAMINATION FOR AIR NAVIGATORS.

The Air Ministry announces that examinations for candidates for first and second class Air Navigators' Licences will be held at the Air Ministry, Gwydyr House, on Dec. 19 and 20. Application forms, and full details and conditions of the examinations can be obtained by applying to The Secretary, The Air Ministry (C.A.2), Gwydyr House, Whitehall, S.W.1, where formal application to sit for examination must be delivered not later than Dec. 12.

Arrangements can be made to examine candidates on Dec. 21 in special cases, but it is necessary that candidates who wish to sit on that date should make the earliest possible application to be examined on that day.

ITALY TO EGYPT.

The Italian Press report that a new company, the Societa Anonima Compagnia Italiana Servizi Aerei, has been formed at Venice with the ultimate intention of operating an air line between Venice and Alexandria. This service cannot be inaugurated except after a long period of organisation and preparation.

At present the company is negotiating for a site on the island of S. Elena, opposite the Lido, for its Venetian base, and it proposes shortly to open there a training school for pilots.

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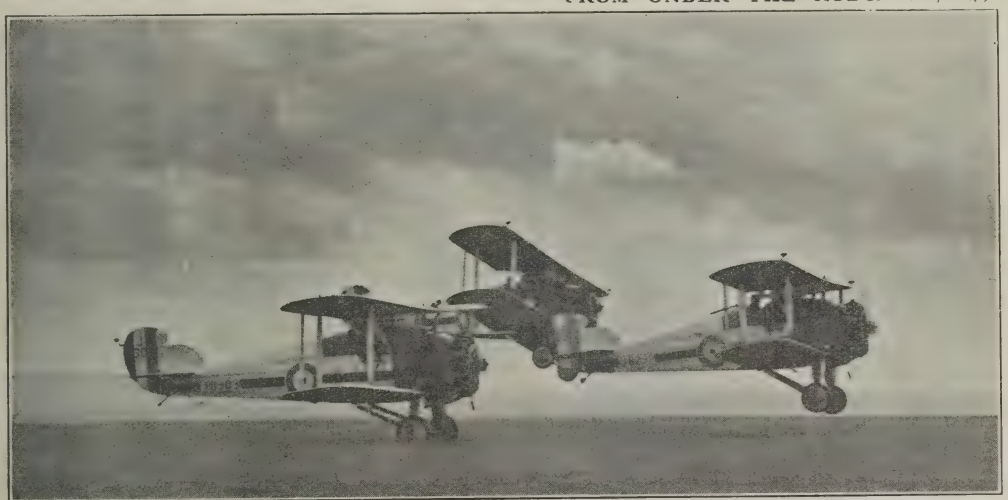
INCORPORATING AERONAUTICAL ENGINEERING

Edited by C. Gorey

Vol. XXXIII. No. 23. SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper

UNIVERSITY OF ILLINOIS

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AIR DEFENDERS:—A Flight of Hawker Woodcocks (Bristol Jupiter IV engines) of No. 3 (Fighter) Squadron, Air Defence of Gt. Britain, R.A.F., taking off at Upavon. No. 3 Squadron was originally formed in May 1912 as a Unit of the R.F.C. It was disbanded in October 1919 and re-formed on April 1, 1924.

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THE AEROPLANE

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VOL. XXXIII. No. 23.

The Editorial Offices of "The Aeroplane" are at 175 Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON LOSING OPPORTUNITIES OVERSEAS.

On Aug. 17 an article was published in THE AEROPLANE entitled "On Another Lesson from America," which seems to have drawn some attention. It set forth the need for an active policy by the British Aircraft Industry if it is not to lose our markets overseas in the same way that the British Motor-car Trade gave away its overseas trade to the American automobile makers between twenty and twenty-five years ago

That article produced a letter from a very active member of the Aircraft Industry in one of the British Dominions overseas, which letter agreed with everything that had been said in THE AEROPLANE'S article and drew attention to a good many points which one had not mentioned. That letter and certain accompanying arguments appeared in THE AEROPLANE on Nov. 16.

Additional weight is now given to the original article by another letter which has since arrived from one of the most important and successful operators of aircraft in Australia. He writes with all the experience of years of successful flying and successful business.

In considering his opinion it is worth while to remember that these Australian Aircraft operators have been running their lines for years with something very close to 100 per cent. efficiency on their schedule services, and know what they are talking about. He writes as follows:—

The leader in your issue of Aug. 17 "On Another Lesson from America" has been read with a great deal of interest and is a most valuable contribution to the Aircraft Manufacturing Trade of England, if they can come to realise the position well enough to take the proper action. There is no doubt that the British Aircraft Manufacturer is in grave danger of losing present markets, and making but little headway in new ones unless a firm grip of the situation is taken, and the lesson of the World's car sales taken to heart.

America is producing most efficient aircraft, and despite the recent great Schneider Trophy victory, business will start to swing that way as a result of the astounding proofs of Bellanca and Ryan efficiency, which have so recently been demonstrated.

There is no doubt, however, that the De Havilland Company have done wonderful work, and always seem to be leading the World in some class of machine or another. They I should imagine are your main hope.

Our chief quarrel with the English Manufacturers is the high prices which they charge. This particularly applies to manufacturers of engines. Why they don't bring down prices and sell more one cannot understand. One sees that the firms make a large profit out of the sale of these engines instead of cutting the price, selling more, perhaps making a smaller profit, but capturing a good slice of the market.

This one cannot help imagining would be the best policy in the long run for the manufacturing firm, and for the people who fit the engines into aircraft, and for the actual consumer—as we might say.

The whole situation is on just such a basis as car sales, and we hope that your manufacturers will realise this.

WHAT IS WANTED.

Once again it is necessary to emphasise the grave danger in which the Aircraft Industry of this country stands in not being able to supply the type of machine which is wanted overseas. Already this paper has given its readers a very fair idea of the types which are being produced in America. And, so that there may be no excuse for ignorance, even among those constructors and designers who are too proud or too lazy to look up back numbers of THE AEROPLANE, several pages of this paper are devoted this week to descriptions and general arrangement drawings of some of the leading American machines.

The Ryan Brougham, developed from the Lindbergh trans-Atlantic machine; the Stinson Detroiter; the Fokker Universal, built by the Atlantic Aircraft Corporation of New Jersey; the Buhl Air Sedan; the Bellanca monoplane; the Fairchild FC-2; the Travel Air monoplane, all come into the class which is wanted,—that is to say the 200 h.p. five-seater high-wing monoplane with a speed of anything between 110 and 130 miles an hour.

Some of them are quite up to our standard of airworthiness. Some of them are not. One particular machine in this class which has been bought for use in Canada has its 200 horses yoked to the machine by four ⅝-inch bolts, and they have developed an unpleasant habit of refusing to hold down their job. Others, when fitted with floats for lake and river work, have proved difficult to get off the water owing to bad float design. But that is a matter which is soon going to be put right by intelligent American designers. The majority of the machines have proved their strength and reliability.

THE ENGINE QUESTION.

The Wright Whirlwind engine with which they are all fitted has also proved itself to be in the front rank of the World's aero engines. Naturally, things happen to it, as they do to the best of engines. But they are generally little things that can quickly be altered.

For example, Mr. Sidney Cotton was flying a Fokker Universal back from Newfoundland after his fruitless search for Nungesser and Coli, when the push-rod of an exhaust-valve broke when he was right over the dangerous waters of Fundy Bay. He got down safely, replaced the push-rod within five minutes, and got away again with only that much delay. Those who are accustomed to cowled-in and elaborately fitted engines of the types which most of us know will appreciate the advantage of such accessibility

Nobody, least of all the Wright Company, would pretend that the Whirlwind is the kind of watchmaker's job which we are so fond of doing on our high-powered high-class engines. But the Whirlwind does its work and keeps on doing it. Which is what our compatriots overseas, and the inhabitants of foreign countries, want for regular air transport.

FRENCH COMPETITION.

Now there is a fresh competitor in the field. The manufacturing rights of the Whirlwind engine have been acquired by the Hispano-Suiza firm in France. And we shall soon have that firm competing for the World's trade with cheap French labour, and low production costs, just in the same way that the Jupiter engine built by the Gnome-Rhone Company is cutting into the World's markets against our own Jupiter engine.



TRAINING TYPES.—Three Avro Gosports, left to right, with the Avro Alpha engine, with the Armstrong-Siddeley Mongoose, and with the old standard rotary Monosoupape Gnôme.

The Bristol-built Jupiter represents the highest grade of material and workmanship that can possibly be put into aero-engine work. Its reliability and power for weight is unsurpassed. But the French-built Jupiter does its work quite well, and has proved itself by far the most reliable radial engine ever built in France. So naturally it sells on price.

Not only shall we have to compete against French-built Whirlwinds, but we shall also have to compete against cheap French-built all-metal monoplanes of the type which the Americans have popularised. The great Schneider firm, makers of the famous Creusot guns, founded by the head of the family of which M. Jacques Schneider, the donor of the Schneider Trophy, is a member, are producing a machine of exactly that type.

For a number of years the Schneider firm have had an aircraft branch at Courbevoie where they have been building large all-metal aircraft constructed of Alférium, a light alloy of their own production similar to Duralumin. This branch has lately been renamed the Société Avimeta, the name being a contraction of the words Avion Metallique.

Some time ago the firm engaged as designer, Capt. Lepère, who was lent to the American Government as a technical officer during the War. In America Capt. Lepère designed a two-seat fighter, of distinctive design, intended above all for strength. When built this machine turned out to be somewhat tail-heavy.

Just about when the U.S. Army Air Service were wondering what to do with it, their engine experts produced a Liberty engine with a supercharger which was too heavy to go into any existing American machine. So the wily Americans balanced matters by putting the heavy engine into the nose of the tail-heavy aeroplane, and sent it up, on Sept. 28, 1921, for the World's Height Record. This it put up to 34,563 feet, —a figure which lasted till Oct. 30, 1923, when M. Sadi Lecointe put the record up to 36,555 feet. And that Lepère fighter was really good in spite of that slight initial mistake about the distribution of weight.

Now Capt. Lepère has produce an Avimeta machine which in general appearance is very like that five-seater class which is so much wanted. An able American pilot who has had years of experience of aeroplanes of all types told one the other day that it is one of the best jobs he has seen. It has the additional advantage of being about 500 lbs. lighter than some of the American machines which have put up quite good performances,—including one of the machines which has flown the Atlantic.

A Matter of Lubrication.

In parenthesis one would draw attention to an opinion expressed by an English pilot of considerable experience. He attributes the success of the Whirlwind in its trans-Atlantic and trans-Pacific flights to the fact that its valve rockers are enclosed and kept constantly lubricated.

He argues that although the grease-gun type of lubrication which is used on all other radials is perfectly adequate for flights of twenty-four hours, it is unfair to expect any grease lubrication to last longer, though it is probably safe up to 30 hours or more.

This is a point which deserves serious consideration by those who are thinking about doing very long non-stop flights. It is also worth attention by designers of all engines in which the valve-rockers are not naturally enclosed.

A Lesson to be Learned.

Undoubtedly the Avimeta monoplane produced under the experienced eye of Capt. Lepère, and fitted with a 200 h.p. Whirlwind built under the famous Hispano-Suiza mark is going to be as dangerous a competitor in the open market for commercial aircraft as that notable aeroplane the Breguet XIX, with the historic Lorraine-Dietrich engine, has been in the market for war machines all over the World.

There is the noteworthy point that the market for high-powered war machines such as the Breguet XIX is itself strictly limited, and the British Aircraft Industry has been hampered in competition with the Breguet XIX by the fact that the Air Ministry has forbidden our Aircraft Trade to offer foreign buyers modern British aircraft. Consequently the British Trade has to all intents and purposes only been able to offer obsolescent British war machines in competition with the most up-to-date French and American machines.

In spite of this handicap we have been able to sell a certain number of war machines abroad at much higher prices than the French and the Americans have been getting, and in spite of their obsolescence, simply on the high quality and the known airworthiness of British aircraft.

The Open Commercial Market.

Now, in the commercial market we should be unhampered by any such restrictions if only we had commercial machines as far in advance of those designed in other countries as some of our war machines which are kept on the secret list by the Air Ministry are ahead of the war machines of other countries.

If we only had commercial aeroplanes as far ahead of those American monoplanes and the new French Lepère-Avimeta as the De Havilland Hound and the Fairey IIIF are ahead of all other two-seater war machines we should simply sweep the market for commercial machines. And we cannot do it because our constructors have wasted so much time waiting to be spoon-fed with Air Ministry orders that we have not got a commercial machine to offer the World.

If somebody will take the bull by the horns and will turn out a British machine with a Whirlwind engine we can still sell it abroad at better prices than anybody else can get. A British Airworthiness Certificate for the aeroplane will sell the machine, leaving the high reputation of the Whirlwind to take care of the saleableness of the power plant,—until such time as somebody here produces an engine to compete with it.

Going One Better.

Purely as a personal opinion, if one were out to compete with the Whirlwind one would not set about it with a radial engine. The Cirrus and the new experimental De Havilland engine have shown what can be done with the four-cylinder-in-line engine. The De Havilland Co.'s experiments have shown that it is just as easy to cool the back cylinder of four as the front one. So there is no reason why somebody should not produce a six-cylinder-in-line engine giving a little more than 200 h.p. which would be quite cheap to build.

The in-line engine has two great advantages. One is that it fits into a fuselage and so decreases head resistance and makes for greater efficiency in the whole aeroplane. And the other is that in a bad landing which crashes the under-carriage it does not, as somebody remarked the other day, rub its lower cylinders off.

One has been told that the Insurance Group charge something like 10 per cent. extra on their insurance rates when a machine of any given type, large or small, is fitted with a radial engine instead of an in-line engine, simply because of the comparatively greater risk of damage to the engine in a bad landing.

The radial engine has certain very clear advantages, especially in weight. But those of the in-line type, hereinbefore mentioned, are worth considering both by designers of engines and buyers of aeroplanes.

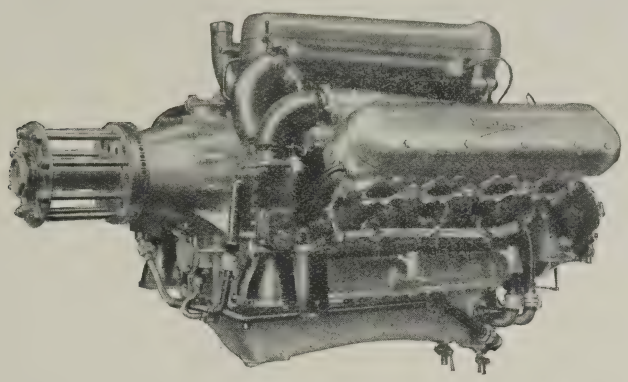
Engine Prices.

Referring back to the letter from the Australian correspondent quoted at the beginning of this article,—his remarks on engine prices deserve discussion.

Obviously there cannot be in Australia, with a population of six million people, anything like a big market for high-powered engines, at any rate for several years to come. Pos-



HOW AMERICA MEETS THE DEMAND.—A Fokker Universal (Wright Whirlwind) built by the Atlantic Aircraft Corporation, of New Jersey, with a third wheel in front for use on rough ground in Honduras. It has been supplied to the Tela Railroad Co., a subsidiary of the United Fruit Co., for an air line from Tegucigalpa to the North-East Coast.



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sibly in five years' time, if we are not then at war, Australia may want a number of big engines for its Air Force. By then the Australian Government may have realised that it can have a very big Air Force for the price of a couple of cruisers such as it was bamboozled into buying last year.

With an increase in its population it may even want some hundreds of big engines, say of 400 to 500 h.p., for its busy air lines,—that is, assuming that aeroplane designers will produce a passenger machine which will carry fifteen people or equivalent load, with 450 h.p., instead of about nine passengers for the same horse power. For, when we get down to carrying passengers at 130 m.p.h. for about 30 h.p. per passenger we shall be somewhere near making commercial aviation pay.

But, if at the present moment we were to offer 450 h.p. engines at £20 apiece instead of about £2,000 apiece, we should still probably not sell more than another dozen or so high-powered engines in the British Dominions overseas in the next year or so over and above those sold this year. There is no demand for high-powered engines.

The real trouble is not the price of high-powered engines, but the lack of a 200 h.p. engine for the type of aeroplane which is most likely to do the World's ordinary air transport work.

It is just the old motor-car problem over again. We were prepared to sell Napiers and Rolls-Royces and cars of that class at £1,000 apiece or more. Or we were prepared to sell low-powered cars at low prices, which were no use for colonial roads. So the Americans came along, with their big-bore slow-running engines and big wheels and wide tracks, and sold cars between 25 h.p. and 35 h.p. for anything between £150 and £500. And of course they got the overseas market.

Just in the same way to-day we can offer aeroplanes with anything between 450 h.p. and 1,450 h.p. at prices anything between £5,000 and £50,000, or we can offer Moths and Avians and Bluebirds and Widgeons at something between £650 and £750. But we cannot offer them the middle-sized high-speed passenger vehicle at about £2,000. And that is what the American and the Frenchman can do.

Mr. Morris of Oxford has beaten the American automobile makers at their own game. Is there any reason why we in this country, with our comparatively low wages, our low cost of living (thanks, perhaps, to Free Trade), and our high-class workmanship, cannot compete with American engines built by workmen whose wages are at least double our wages, whose cost of living is far higher, and who at the finish are not such good workmen?

A Canadian Opinion.

Any of those who may think that one has been quoting only the opinions of Australians, who are notoriously prone to criticise anything that is done by the Old Country (and very rightly so), may be interested to see the opinion of a Canadian who has had to do with flying in that country since its very beginning, and is singularly well-informed.

Writing about the Canadian plans for the development of air lines and Flying Clubs he says :—

We have placed an order for ten De Havilland Moths for light aeroplane club use. This will start five clubs next Spring and it looks as if we would have authority to start another five or perhaps even ten clubs next year also. This is bound to have a good effect on flying throughout the country.

One of our reasons for helping the flying club movement is to encourage municipalities to provide aerodromes. Just now there is so little flying in some districts and so much of it done on sea-planes that there has been no call for flying fields.

You can see that if these plans materialise, there will be a demand for new and efficient aircraft and I do hope the British aircraft and engine manufacturer will take an interest. As you know, we would much rather deal with him than with our friends to the south, who are doing all the business to-day, and it is quite a good business, I assure you.

We have now on order, I think, twenty-seven Moths for our own work and, in addition, there will be quite a few for commercial and provincial services. This shows that where the British manufacturer is prepared to supply an article which we really want he can get the business.

I am only sorry that the same is not true of the other types. I fully expect to see not less than fifty or sixty light aeroplanes operating in Canada next year and our total purchases in this class may easily reach one hundred.

Here again one sees the enterprise of the De Havilland Company recognised. This is a confirmation of the remark of the Australian correspondent to the effect that De Havillands seem to be our only hope.

There is plenty of room in the British Dominions overseas for a dozen British firms to compete with one another. And competition is always good for trade.

The De Havilland Co. deserve every credit for the pluck and energy and enterprise they have shown in going after the business Overseas. But even now, the firm's output is only four Moths a week, whereas there are at least half-a-dozen firms in the United States with an output of more than six machines a week and all turning out the 200 h.p. 130 m.p.h. five-seater which our Overseas Dominions want.

As soon as these firms have saturated the American market they will overflow into our Dominions and dump their surplus output at cut prices. And then what are we going to do about it if we have not already fixed up agents or started branch factories?

How America Does It.

Another question is that of getting closely in touch with buyers overseas. We hardly bother about our own Dominions let alone countries inhabited by mere foreigners.

The American Aircraft Industry is already doing good trade in South America. But England is not so very much further from South America than are the Northern States where aircraft are made. Here is an example of how America gets to work.

By way of making things easier for the American Industry, Malcolm Meacham Inc., Real Estate dealers of 15, Park Row, New York, are advertising property for aircraft factories at Meacham Air Port, Key West, Florida, whence a daily air mail service is to run between Key West and Havana, Cuba, only 90 miles away.

Key West is an island with a population of approximately 20,000 people and is about 100 miles out at sea. It is one of Florida's oldest cities. Henry Flager built years ago an oversea railroad at a cost of ten million pounds from the mainland to Key West. Munroe County has for the past four years been building an oversea highway, and this month, if all goes well, Key West will for the first time in history be accessible by automobile.

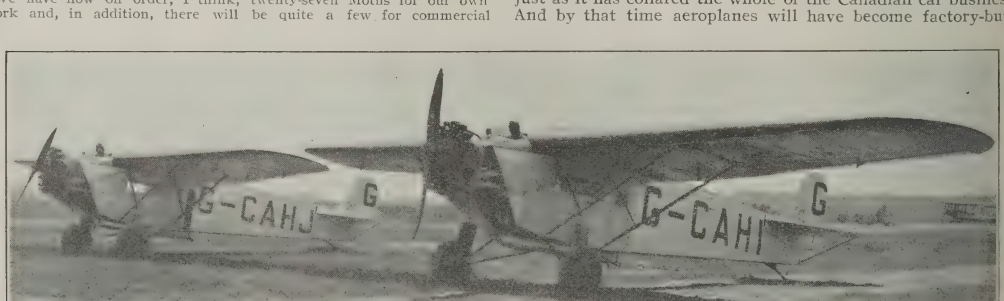
That is a real example of American business enterprise when there is business to be done. And we sit at home here and wonder why Canada buys from the United States next door. If it pays a bunch of live Americans to open an air port at the extreme point where they are nearest to South America, and to consider building factories there, surely it would pay us to open branch establishments in Canada where, after all, we are on our own territory in a rapidly growing market.

The Factory Question.

Moreover, there is the very important point that at the present stage of development a large fully-tooled factory is not necessary for the production of aeroplanes. West Australian Airways and the Quantas people have shown us that they can build perfectly good De Havillands in their ordinary aerodrome sheds.

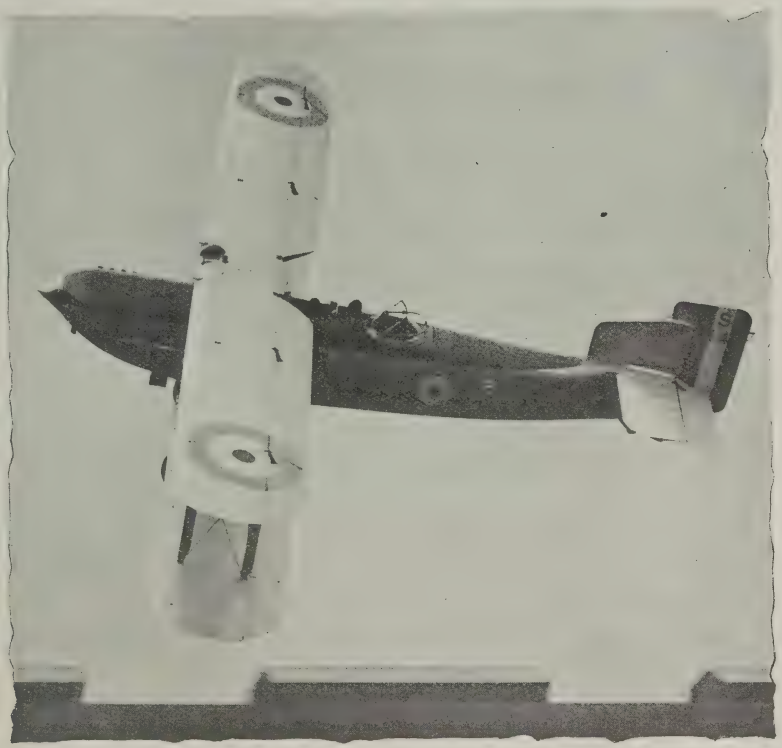
There is no more difficulty than that in building perfectly good aeroplanes of any type in aerodrome sheds in Canada. And Canadian branches started now in sheds will grow naturally into factories as the business grows.

If we wait for another five years or so, in the first place the United States will have collared all the Canadian business, just as it has collared the whole of the Canadian car business. And by that time aeroplanes will have become factory-built



CANADIAN PREFERENCE.—Two of a number of Fokker Universals (Wright Whirlwinds) bought by the Canadian Government for use in the Hudson Bay patrol.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

The exceptional adaptability of the IIIF is doubly extended by the rapidly interchangeable sea and land undercarriages.

Also Sole Manufacturers and Licensees of
THE FAIREY PATENT METAL AIRSCREW
(Licence Reed) for the British Empire.

The Fairey Aviation Company, Ltd.
Hayes • • Middlesex.

FAIREY AIRCRAFT



FOR ALL MARKETS.—A Fairchild Monoplane (Wright Whirlwind) bought by the U.S. Department of Commerce, for official transport.

jobs, like motor-cars and opening a branch establishment will mean laying down tens of thousands of pounds for tools and machinery.

If we are going to get the Canadian business and are not going to present it to the United States as a gift, this is the time to get going on it.

And similarly, if we are not going to let the Australians start up tariff-protected factories of their own and build machines to American designs under royalty agreements, here and now is the time to get busy with designs for real commercial aeroplanes.

Instead of which the Aircraft Industry wastes valuable time moaning about lack of orders for war machines for the Royal Air Force, and lobbying around the Air Ministry for the odd experimental order or two, or pulling political strings to try and get the Treasury to let the Air Ministry spend the unspent balance of the money voted for aircraft in the last budget, or hoping that our flatulent Air League will make the Nation airminded instead of bleating about prohibited broadcasting.

If only the Aircraft Industry would make what people want and sell it to them, instead of trying to make people want what it is ready to sell, it would make its fortune within the next five years. But that would be too great a departure from the traditions of the British Manufacturer.—C. G. G.

THE NEW S.B.A.C. OFFICIALS.

A meeting of the Council of the S.B.A.C. was held on Wednesday, Nov. 30, and new officers of the Society for the ensuing year were elected. Capt. Peter Dyke Acland, of Vickers Ltd., who was Vice-Chairman last year, was elected Chairman vice Mr. T. O. M. Sopwith. Squadron Commander James Bird, late R.N., of the Supermarine firm, who was Treasurer last year, has been elected Vice-Chairman (Aircraft Section), and Mr. H. T. Vane, C.B.E., of the Napier firm, has been re-elected Vice-Chairman (Engine Section). Mr. John Lord of the Avro firm has been elected Honorary Treasurer vice Sq. Cdr. James Bird.

Capt. Acland was an Indian Army officer before the War and served in France in the early days of the War till recalled to the Aircraft Department of the Vickers company under the late Major H. F. Wood.

Since the death of Major Wood Capt. Acland has directed the fortunes of the Vickers Aircraft Department with marked success. This Department is generally believed to be one of the Departments of that great organisation which has steadily paid its way and was not responsible for the financial reconstruction of the firm. Capt. Acland is one of the best-liked personalities in the Aircraft Industry, and will make an excellent Chairman.

Squadron Commander James Bird served in the R.N.A.S. during the War and towards the end of the War was released from a technical post in the R.N.A.S. to take charge of the Supermarine Aviation Works Ltd. in conjunction with Mr. Hubert Scott-Paine.

As he retired from the R.N.A.S. before the coming into being of the R.A.F., he left the Service when the title of "Squadron Commander" was a substantive rank in the Royal Navy. That rank has now been abolished. All Squadron Commanders, R.N., on the active list were absorbed into the R.A.F. as Majors, and such of them as have survived are now either Squadron Leaders or of higher rank. Consequently Sq. Cdr. Bird is one of the very few people who carry that rank.

Under his able direction the Supermarine firm has become one of the World's leading aircraft concerns and it has undoubtedly had during the past two or three years the biggest output of flying-boats in this or any other country.

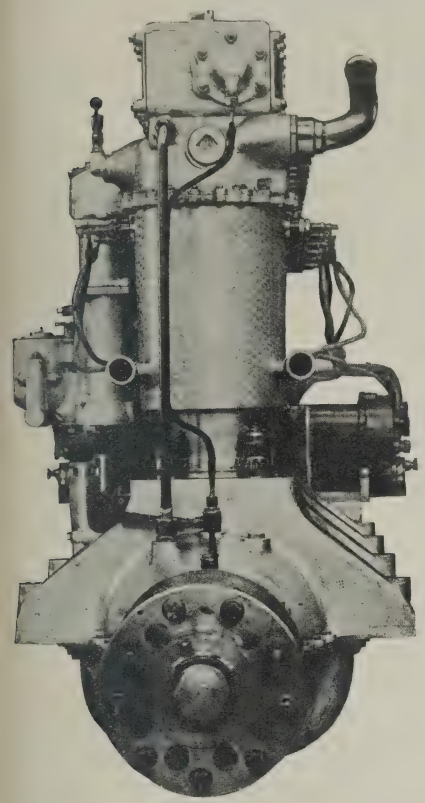
Mr. H. T. Vane has for many years been Managing Director of D. Napier and Son Ltd. On his initiative, backed by Mr. Montague Napier, the firm staked its fortunes in the last year of the War 1914-18 on the Lion engine.

The Lion has steadily progressed from success to success, culminating with its recent victory in the Schneider Trophy Contest. Its reputation is based on the fact that the Lion is now recognised as unsurpassed for reliability by any engine in the World.

Mr. John Lord, Director of A. V. Roe and Co. Ltd., is one of the most popular personalities in the Aircraft Industry. Under his kindly rule the Avro machines have maintained fully the high reputation they have always had for efficient performance and first-class workmanship. His enterprise has been shown by the number of new and interesting experimental types which the firm has produced. And his business acumen has been proved by the fact that the firm has steadily maintained its financial position in spite of the strikes and slumps which have swept this country during recent years.—C. G. G.



CANADIAN PREFERENCE AGAIN.—A Fairchild (Wright Whirlwind) on floats, used for air survey in Canada.



THE A.D.C.

"NIMBUS."

The new medium power Aero Engine of small frontal area and weighing approximately 2 lbs. per h.p.

300-330 h.p. A.D.C. NIMBUS AERO ENGINES

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ON THE SCHNEIDER TROPHY ARGUMENT.

Apparently somebody is trying to " get a move on " about the Schneider Trophy. According to the daily papers of Dec. 2 the Air Ministry has announced that it will *not* supply a team of R.A.F. pilots to the Royal Aero Club for the Schneider Trophy Contest next year.

This strikes one as being an eminently sensible decision. There is no earthly or aerial reason why pilots who have been trained at vast expense to the Nation to defend the Empire against invasion should be deliberately sent to risk their lives in one of the most dangerous contests in the World. Personally one objects as a Taxpayer to one's money being spent in that way.

Our Aerial Jeremiah.

One feels sure that if the Air Ministry had decided to train a team for next year s Contest the Secretary-General of the Air League, Brigadier-General P. R. C. Groves, could have filled several columns of *The Daily Mail* with lamentations and diatribes against the extravagance and recklessness and inhumanity of the Air Ministry, and particularly of the Air Staff, in thus endangering young lives of immense value to the Nation and in spending thousands of pounds of the Taxpayer's hard-earned money in preparing for and participating in a contest which is of no direct value to the Royal Air Force and can do nothing whatever to prevent the French from bombing London out of existence in five minutes and is anyhow only a first-class advertisement for the British Aircraft industry.

Also, Brigadier-General P. R. C. Groves could have lamented that by thus taking charge of defending the Trophy the Air Ministry would be doing a number of deserving civilian pilots out of their livelihood, with the result that instead of training hard to be physically fit as the country's best high-speed pilots, they would be driven to drink and so would become a danger either as air-line pilots or as joy-ride pilots, or as commercial test pilots.

Still further, he could have protested that as the production of a high-speed machine benefits British Aviation generally, just as the production of racing cars has benefited motoring, it would be altogether wrong for the Air Ministry to supply the drivers for these racing machines, on the grounds that the Army Service Corps has never in its life supplied a racing driver for one of the great international automobile contests on the Continent.

And he could have argued that because the Army has never paid for the building of racing cars it is altogether wrong for the Air Ministry to pay for the building of racing aircraft.

In fact Brigadier-General P. R. C. Groves, in his own particular style of argument, could have fulfilled his chronic desire to attack the Air Ministry very much better on those lines than ever he can as the Air Ministry's decision stands at present.

Of course, any decision by the Air Ministry was bound to be attacked by *The Daily Mail* and its faithful henchman, Brigadier-General Percy R. C. Groves, with Colonel the Master of Sempill, Chairman of the Royal Aeronautical Society (with which is incorporated the Institution of Aeronautical Engineers) as chorus.

A Matter of Fact.

Brigadier-General P. R. C. Groves, when it comes to a real argument, is always so delightfully illogical. For example he says, in attacking the Air Ministry for not supplying a team to the Aero Club,

> The race calls for the services of the country's best high-speed pilots. These are the scout pilots of the Royal Air Force. No others have the same facilities for training.

For example, Flt. Lt. Webster, the winner of the Trophy this year, has been a pilot of No. 22 Squadron at Martlesham Heath since Dec. 1923. Flt. Lt. Webster has done a good deal of testing of all types of machines, and particularly distinguished himself by saving the Avro Ava, a big twin-engined bomber, from a crash at Hendon in 1926. Apart from that, No. 22 Squadron is a Bombing Squadron.

Flt. Lt. Worsley was from Oct. 1921 till May 1925 with No. 70 Bombing Squadron at Hinaidi, where he was flying twin-engined Vickers Vernons over the desert. Then he was appointed to Felixstowe, where he flew everything in the way of seaplanes, from big flying-boats downwards, till the High Speed Flight was invented.

Flt. Lt. Kinkead was a pilot of No. 30 Bombing Squadron, Hinaidi, from January 1922 to March 1925, and was flying D.H.9as, though perhaps not as much as he might have done if he had not been wanted so badly for 30 Squadron's polo team. After that he was in Egypt and took part in the first Cape and back flight on Fairey IIIDs. And at the beginning of 1927 he was at No. 5 Flying Training School at Sealand flying Avros and D.H.9as

Thus it may be seen that not one of this year's team has been a scout pilot for years and years and years.

The Poor Civilians.

When the Air Ministry decided in 1926 to form a high-speed flight at Felixstowe and to take over bodily the winning of the Schneider Trophy, because none of the well-to-do sportsmen in this country were sportsmen enough to put up the money, nobody kicked up such a row about using Service pilots for the job as did the civilian pilots who had done the testing of the 1925 and 1926 machines which were built for the Schneider Contest.

There was quite a strong feeling in the Trade that while the Air Ministry might be allowed to spend the Taxpayer's money on building the machines, thus giving the Trade a chance of advertising itself at the Taxpayer's expense, the Air Ministry was altogether outstepping the bounds of decency by insisting on having the machines flown by Service pilots. The feeling rather was that the Service was " wiping the Trade's eye "—as the shooting folk call it.

Now that the Air Ministry has decided to do exactly the thing that the Trade wanted it to do two years ago Brigadier-General P. R. C. Groves must needs leap into print and abuse the Air Ministry for not doing precisely what called forth protests last year.

A Parallel Case.

One cannot imagine Mr. Pat Hannon, in the great days when the late Mr. Robert Yerburgh and he made the Navy League the great political support of the Admiralty, rushing



" JUST A LITTLE BUTTERFLY OUT IN THE RAIN."—The Schneider Trophy Winner, the Supermarine S.5 (Napier engine), on the Horse Guards Parade.

"THE UBIQUITOUS MOTH"



Hundreds of Moth two-seater light aeroplanes are in regular use throughout the World, some of their locations being shown on the map above.

Training, touring, survey, forest fire patrol, mail transport and exploration are just a few of the uses in which the Moth is daily *proving* its worth.

MOTH LANDPLANE £730. ***READY TO FLY AWAY*** **MOTH SEAPLANE £1,150.**

For fully illustrated specification write to:

THE DE HAVILLAND AIRCRAFT CO., LTD., STAG LANE AERODROME, EDGWARE, MIDDLESEX.

KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

into print and complaining that the Admiralty did not relieve Sir Thomas Lipton of the trouble and expense of building the various *Shamrocks* in his endeavours to win the America Cup. Nor can one imagine Mr. Hannon crying out because the Navy did not provide crews for the assorted *Shamrocks* or for the various British motor-boats which have been defeated from time to time by the Americans and the French.

On the contrary, what Mr. Hannon did was to cry aloud that everything that the Admiralty did was right. Perhaps he was no more strictly regardful of facts than is Brigadier-General P. R. C. Groves. But at any rate he did support the Admiralty and the Navy. And consequently he went a very long way towards creating that childlike trust in the British Navy which is still held by the British Taxpayer.

If Brigadier-General P. R. C. Groves would only adopt a similar policy towards the Air Ministry he might perhaps do something towards inducing the Treasury and the British Taxpayer to supply the Squadrons which are still missing from the R.A.F.'s long-delayed scheme for the Air Defence of Great Britain. On the other hand, he might not.

Discipline.

The one really sound argument in favour of having a team of Service pilots is that such a team can be kept under proper discipline, so that their training may not be interrupted by personal idiosyncrasies. Pilots of all kinds are apt to be temperamental.

Those who have followed the humorous vagaries of the professional pilots, with the sole exception of Charles Lindbergh, who have been concerned in the various trans-Oceanic and other long-distance flights of late, will appreciate this fact. And when temperament is not restrained by the bonds of discipline it is apt to be rather a chancy thing on which to gamble the large sums of money involved in such an affair as the Schneider Trophy Contest.

Mr. Harold Perrin, Secretary of the Royal Aero Club, has been induced to lament in print that no private fund exists which can enable a full team of private pilots to concentrate for a long time solely on high-speed flying. The small amount of flying done by the team who brought the Schneider Trophy back from Italy shows that about a fortnight of concentrated flying over suitable water is all the training that is needed. Barring giving up smoking and drinking for a few weeks none of the team did any particular training for the job.

And anyhow, if the Royal Aero Club, with its long list of millionaire or neo-millionaire Councillors, cannot raise a couple of thousand pounds to pay three or four pilots for a month, then it is time that the R. Ae. C. changed its organisation.

Shall We Defend?

Finally, there is the question of whether we shall want a team next year at all. As holders of the Trophy, if anybody challenges us we shall have to put up some sort of defence. Apparently one sporting firm, the Gloster Co. to wit, is already well ahead with the building of a new Schneider defender. And for all one knows the Supermarine company and other firms may be doing likewise. Also, there is a super-boosted Napier for the job.

But one gathers that there is a feeling that if the other countries concerned ask us to postpone the race for a year we shall be quite pleased to agree.

This year we were ready to challenge for the Trophy, so when one or two other countries suggested making a once-in-two-years' event of it, naturally our delegates on the International Federation opposed the motion and managed to get some few non-maritime countries who are members of the F.A.I. to support us and give us a majority. But one believes that this year if the countries which have the best chance of beating us in 1929 choose to approach the Royal Aero Club on the subject we will agree with them to find a majority which will vote for no Contest in 1928.

Personally one thinks that it would be bad policy for us to consent to such a proposition. Having once stuck out for an annual contest the least we can do is to stick to it, even if it costs us a lot of trouble and money. But the one fixed policy of the English Politician has always been never to stick to a policy, but always to be an opportunist. So there may not be a race next year after all.—C. G. G.

THE S.5 SEES LONDON.

The Supermarine-Napier S.5, the winner of the Schneider Trophy for 1927, arrived on the Horse Guards' Parade, London, on Wednesday, Nov. 30, where it has been taken to see the people who paid for it.

The usual heterogenous group of Societies connected with aeronautics had made arrangements to meet it and had provided living accommodation for it.

It arrived about 2 p.m. on Wednesday and it was erected by about tea time on the following day. The Trophy was also exhibited in a glass case alongside.

By way of a delicate and somewhat obscure compliment to our gallant competitors, a flag, which those in charge of the machine fondly imagined to be Italian, was hung with the British flag over the machine. Knowledgeable people at the Admiralty, with sea-going glasses, soon spotted that this was in fact the flag of the Mexican merchant marine, and there was much telephoning to the Air Ministry, where every department apparently disclaimed responsibility. But the authentic Italian flag, complete with the cross of Savoy, was soon put up in place of the Mexican.

Ultimately the civilian firm which contracted to house and handle the machine, owned up. Which only shows that if you want a thing done properly you must do it yourself.

How airminded is the British Public can be discovered by listening to the remarks of the crowd. One member of it was heard to remark:—"Coo! Fancy old Segrave doin' two 'undred miles in an hour on that thing."

What good propaganda work has been done by the De Havilland Company is realised that a number of people took the Moth as the standard of comparison. One heard people on all sides saying such things as "It's smaller than (or bigger than) a Moth," or "It's like a Moth with only one wing," etc.

Anyway one hopes London liked the S.5. Probably London will appreciate the S.6 even more.

THE LONG RANGE FLYING-BOAT.

The paper by Major J. D. Rennie, of the Blackburn Aeroplane and Motor Co. Ltd., on "The Problem of the Long Range Flying-boat," read to the Royal Aeronautical Society on Dec. 5, should serve to clarify some of the many vague ideas which are current as to the practical possibilities of sea-going aircraft. In the paper Major Rennie presents, mostly in the form of graphs, the results of calculations made by the staff of his firm concerning the improvements which may become possible in the future and their effect on the performance of flying-boats.

Details of the results of this investigation can scarcely be given here. They cover an exceedingly wide range, including the effect of changing the weight per h.p., the taking-off speed, the aspect ratio of wings, the reduction of body drag, and the fuel economy of engines on the possible range of practical flying-boats.

Changes in design which lead to an improvement in one direction are shown sometimes to have undesirable results in another. Low wing-loadings give low taking-off speeds, and a short time and run to take-off. They also favour increased range. But they also lead to a reduced top speed and a low economical cruising speed. Against a head wind the increased range in air miles may become a smaller range in sea miles.

Increasing aspect ratio increases maximum range, but reduces the speed at which maximum range can be attained. A cruising speed high enough for practical purposes therefore cuts down the range for service purposes below that theoretically possible in still air, and makes it unprofitable to use either a very low wing-loading or a high aspect-ratio.

Practice allows the designer to make a reasonable compromise between such conflicting requirements which if they are not the best possible are fairly satisfactory.

Cleaning up aerodynamically will give increased speed and increased range with no disadvantages. Halving the body resistence of a particular flying-boat would increase the top speed from 100 to 119 knots. The most economical speed, however, would increase only from 67 to 75 knots, but the range at that speed would increase 30%.

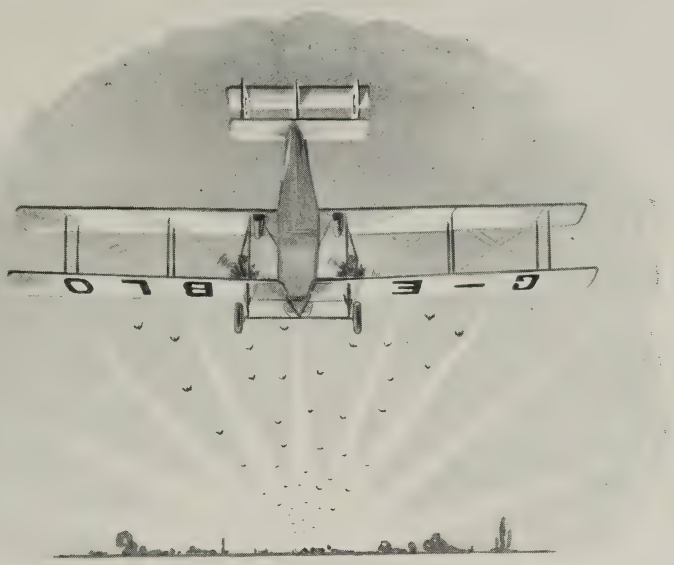
Very nearly as great an increase in range would be possible if the fuel consumption of aero-engines could be improved in the same ratio as that between the rate of consumption ordinarily attained in service and that which was claimed as possible by the makers of the Rolls-Royce Condor engine.

Among matter of more general interest in the paper is Major Rennie's opinion that,—

So far as hull form affects seaworthiness, the great majority of modern flying-boats are inferior to the "F" boats developed by the late Wing Cdr. Porte during the late war. This defect is probably the result of lack of knowledge of the experience gained in the development of these and other boats during this period, and to the acceptance of tank test results as providing sufficient data on which to base design without regard to the full scale requirements.

Major Rennie dissents emphatically from the opinion that with growing engine reliability the aeroplane because of its superior aerodynamic efficiency may oust the flying-boat for overseas flight. Absolute reliability does not exist in any form of transport. The large flying-boat is now the equal if not the superior of the large aeroplane in efficiency, and has a definite advantage on the side of safety over the sea.

This very interesting paper will be published complete, with the long discussion which it drew forth, in a forthcoming number of the Journal of the Royal Aeronautical Society and should be read by all interested in the development of air transport.



FOLLOW THE SWALLOW

THE Armstrong Whitworth Silver Wing Argosy Air Liner has been selected by Imperial Airways, Limited, as the most suitable machine for their First Winter Air Cruise over Northern Africa and the South-West of Europe.

The Silver Wing Argosy, with its three 385-425 h.p. air-cooled Armstrong Siddeley Jaguar engines, has already proved its absolute reliability, great economy of running and ease of maintenance, on the London-Paris airway.

The First Winter Five Weeks' Air Cruise marks another advance in commercial aviation, and the fact that an Armstrong Whitworth aeroplane fitted with Armstrong Siddeley engines has been selected for the task proves that the Silver Wing Argosy Air Liner is the safest and most luxurious aircraft in the world.

Sir W. G.

ARMSTRONG WHITWORTH

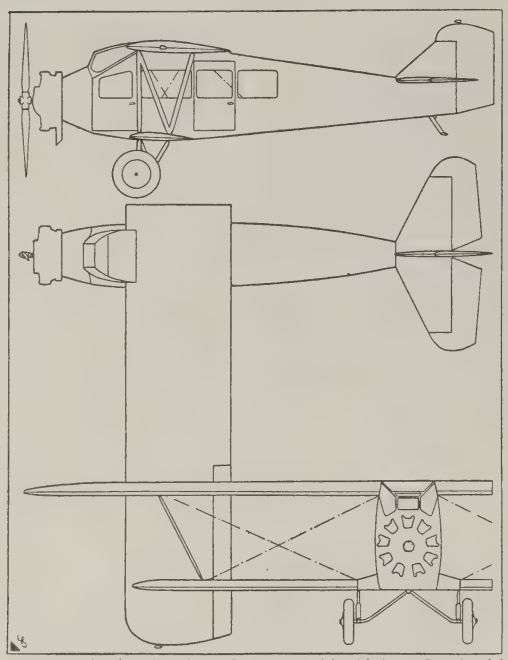
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A.51

AMERICAN COMMERCIAL AIRCRAFT.

The Buhl Airsedan.



The Buhl Airsedan is a five-seat cabin biplane fitted with a 200 h.p. Wright Whirlwind engine.

The fuselage, of a deep section which fills the gap, is built up of welded steel tubing. In the region of the cabin all transverse bracing is replaced by oval frames of welded tubing thus providing ample space for the occupants. The pilot's cockpit is forward of the top plane leading-edge and is enclosed. The pilot's seat is at a higher level than the other seats in the cabin and on either side and above he is provided with plenty of window-space. The transparent cockpit covering is fitted with side windows which can be opened and on his left side there is a large door.

Behind the pilot's compartment is a comfortably upholstered cabin with two sets of two seats all facing forward. The two forward seats have backs which are hinged vertically at the centre of the two seats so that either back may be swung forward to give access to the front of the cabin. The two back seats are fixed to the rear of the cabin. Two large doors, one on either side, are provided at the rear of the cabin and large windows are fitted throughout the entire length of the cabin.

The wing structure is of a sesquiplane arrangement with one set of splayed-out "N" type steel tube interplane struts on either side of the fuselage. The spars of the top plane are of the box type and those of the bottom plane are solid. The leading-edge and nose of the wings are of sheet aluminium.

Ailerons are fitted to the top plane only.

Two gravity petrol tanks, each of 35 gallons' capacity, are built into the top planes close up to the fuselage.

The undercarriage is of the split type and consists of two oleo shock-absorbing units attached to the bottom wing-roots, which are hinged by radius rods to two fore-and-aft Vees and to the centre-line of the underside of the fuselage by two bent axles. The wheels are fitted with Sauzedde wheel brakes. The wheel track is 6 feet 8 inches.

The tail unit, of welded steel tube construction, consists of adjustable tail-plane, fin, balanced rudder and elevators.

The engine is fitted with an efficient silencing system and an Aeromarine inertia starter. Petrol shut-off valves and a pressure fire-extinguishing system are provided within easy reach of the pilot

SPECIFICATION.

Span, top plane ... 45 ft. (13.72 m.)	Weight of oil 60 lbs. (27.24 kgs.)
Span, bottom plane 31 ft. 10 ins. (9.7 m.)	Weight of pilot and passengers 895 lbs. (406.33 kgs.)
Length ..... 27 ft. 4 ins. (8.32 m.)	Weight loaded 3,375 lbs. (1,532.25 kgs.)
Height ..... 9 ft. (2.74 m.)	Speed, max. 115 m.p.h. (184 km.p.h.)
Wing area 330 sq. ft. (30.69 sq. m.)	Speed, landing 50 m.p.h. (80 km.p.h.)
Weight empty 2,000 lbs. (908 kgs.)	
Weight of petrol 420 lbs. (190.68 kgs.)	

The Fairchild Cabin Monoplane.

The Fairchild FC-2 is a five-seater cabin monoplane fitted with a 200 h.p. Wright Whirlwind engine. It has been under development by the Fairchild Airplane Manufacturing Corporation of Farmingdale, Long Island, N.Y., for over two years and it has now been put into production.

At the time of writing thirty-one have been sold, including six to the Canadian Department of National Defence, three to Fairchild Aviation Ltd., of Grand'Mere, Quebec, and two to Western Canadian Airways of Winnepeg, Manitoba.

The fuselage is of welded steel tube construction and particular attention has been paid to the question of pilot's vision from his enclosed position. The cabin holds five, with the pilot in front, and the four passengers are seated in pairs behind the pilot. The two front seats are arranged to fold out of the way to permit the carriage of freight or to adapt the machine for aerial photography.

The passenger cabin has about 90 cubic feet of space available for freight when no passengers are carried and an additional 35 cubic foot compartment is available for passengers' baggage or further freight.

The pilot's seat is right forward of the cabin and the fuselage in this region is tapered in towards the engine and is amply provided with windows. The low position of the engine enables the pilot to look straight ahead.

Behind the cabin the top longerons join each other rather abruptly thus giving an inverted triangular section to the the after portion of the fuselage.

The controls are of the normal stick and rudder-pedal type. Access to the pilot's seat is obtained either through a door on the right side or through the cabin.

The wings are of wooden construction and are made to fold. They are braced to the bottom longerons of the fuselage by two Vees of steel tube, the apices of the Vees being attached in a line directly under the rear-spar hinges. As an additional safeguard cables are provided inside the bracing-tubes and a further cable connects the two bottom hinge-pins, thus providing a complete link from wing to wing under the fuselage.

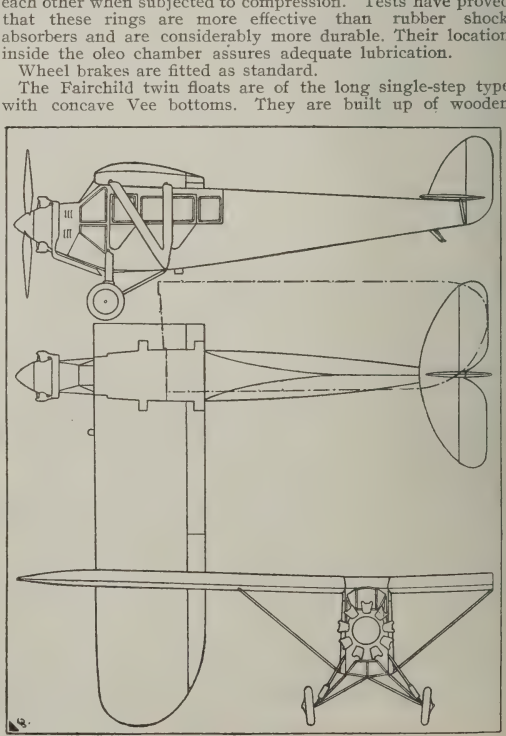
The tail unit is built up of welded-steel tubing covered with fabric. The tail-plane is adjustable in flight.

The under-carriage is of the split type and either wheels or ski can be fitted. This under-carriage can be replaced by twin floats when the machine is required as a seaplane.

Under-carriage suspension is by a combined oleo and steel-ring damping gear. The steel rings are located inside the oleo chamber and are so arranged that they are forced inside each other when subjected to compression. Tests have proved that these rings are more effective than rubber shock absorbers and are considerably more durable. Their location inside the oleo chamber assures adequate lubrication.

Wheel brakes are fitted as standard.

The Fairchild twin floats are of the long single-step type with concave Vee bottoms. They are built up of wooden



SOME UNEQUALLED PERFORMANCES.

REGULARITY-SECURITY-ENDURANCE

LORRAINE AERO ENGINES.

Rome-Melbourne-Tokyo (54,000 km.) by Colonel de Pinedo and Campanelli (450 h.p. motor).
The Tour of Europe (7,500 km.) in 61 hours from start to finish, by Arrachart and Carol (450 h.p. motor).
Warsaw-Tokyo-Warsaw (20,250 km.) in 130 hours, by Lieut. Orlinski (450 h.p. motor).
Paris-Pekin (10,500 km.) in 6 days, by Pelletier Doisy and Carol (450 h.p. motor).
Circuit of the West Mediterranean (6,000 km.) in 41 hours 50 mins. from start to finish, by Pelletier Doisy and Gonin (450 h.p. motor).
Night Crossing of the South Atlantic, by Colonel Sarmento de Beires (450 h.p. geared motor).
Paris-Bombay-Belgrade (14,500 km.) in 89 hours flying time by Sondermayer and Baydak (450 h.p. motor).
Circuit of Eastern Europe (8,000 km.) in 7 days by Commandant Weiss and Assolant (450 h.p. geared motor).
Circuit of the Mediterranean (10,700 km.) in 6 days by Pelletier Doisy and Gonin (650 h.p. geared motor).
Michelin Cup, 1925 (Captain Pelletier Doisy), 1927 (Capt. Challes).
Breguet Cup, 1925 (Adjt. Sahuc), 1926 (Adjt. Duroyon).
King of Servia's Cup, 1926 and 1927.

WATER-COOLED MOTORS

400 h.p. (12 cylinders in V), 450 h.p. (12 cylinders in W) direct drive and geared down.
480 h.p. (12 cylinders in W), 650 h.p. (18 cylinders in W) direct drive and geared down.

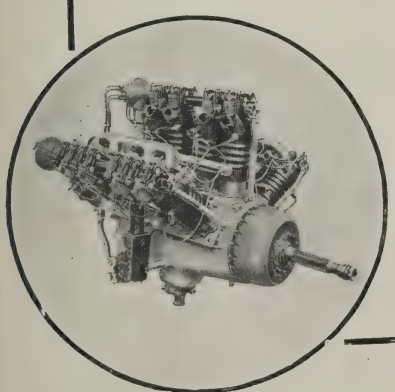
AIR-COOLED MOTORS

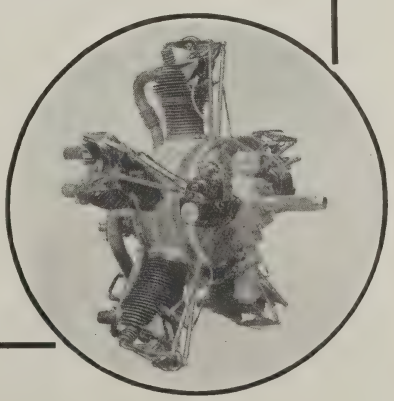
100 h.p. (5 cylinders radial), 230 h.p. (7 cylinders radial), 470 h.p. (14 cylinders radial).
Automobiles 12, 15 and 30 h.p. **Marine Motors**, 250 and 500 h.p. (petrol).

SOCIÉTÉ LORRAINE,

Factory:
Argenteuil (S & O)

Office:
11, Rue de Tilsitt,
PARIS.





frames covered with bolted-on sheet duralumin. The wood and duralumin are insulated by strips of cotton tape impregnated with plastic marine glue and at the joints a further outside layer of packing covered by a strip of duralumin ensures a watertight joint. Each float is subdivided into three watertight compartments by reinforced duralumin bulkheads which are located at the points of attachment of the struts and therefore help to distribute the strut loads.

A special canvas-covered nose-piece with internal springs provides against damage in nose-on collisions. Access to the interior of the floats is obtained through a quickly-detachable ten-inch walking strip which runs the entire length of the float.

The standard engine is the Whirlwind but in two machines supplied to the Curtiss Flying Service Curtiss C-6 six-cylinder water-cooled engines with underslung radiators have been installed.

Two 35-gallon petrol tanks are carried in each wing and a 10-gallon reserve tank is located in the centre section. For increased range this 10-gallon tank may be replaced by one of 30 gallons capacity. All petrol pipes are taken back to the back hinge pins where special swivel pipe connections obviate the necessity of disconnecting the pipe lines when folding the wings.

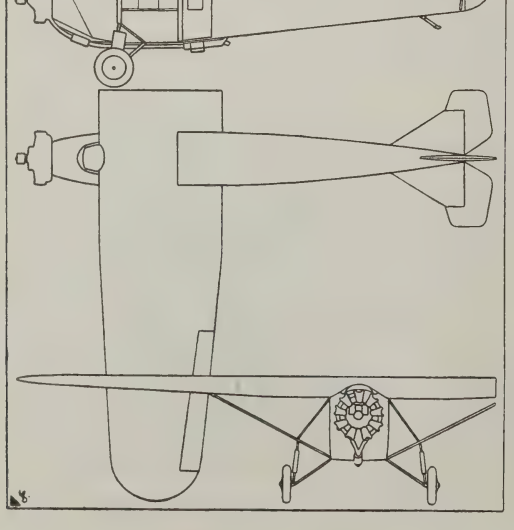
Specification.

Landplane.		Seaplane.	
Span	44 ft.	Span	44 ft.
Length	30 ft. 11 ins.	Length	32 ft. 5 ins.
Height	9 ft.	Height	11 ft. 4 ins.
Span (folded)	13 ft.	Span folded	13 ft.
Wing area	290 sq. ft.	Wing area	290 sq. ft.
Weight empty	2,050 lbs.	Weight empty	2,340 lbs.
Useful load	1,550 lbs.	Useful load	1,560 lbs.
Weight loaded	3,600 lbs.	Weight loaded	3,900 lbs.
Wing loading	12.4 lbs./sq. ft.	Wing loading	13.5 lbs./sq. ft.
Power loading	18 lbs./h.p. (200 h.p.)	Power loading	19.5 lbs./h.p. (200 h.p.)
Speed, max.	122 m.p.h.	Speed, max.	118 m.p.h.
Speed, cruising	103 m.p.h.	Speed, cruising	100 m.p.h.
Rate of climb (full load)	565 ft./min.	Rate of climb (full load)	420 ft./min.
Absolute ceiling	13,000 ft.	Absolute ceiling	10,500 ft.
Climb to 10,000 ft.	33 mins.	Range at cruising speed	650 miles
Range at cruising speed	710 miles		

The Fokker Universal.

The Fokker Universal was the first American production of the Atlantic Aircraft Corporation, of Teterboro, Hasbrouck Heights, N.J., which was founded by Mr. Anthony H. G. Fokker (now an American citizen) in December, 1923. Mr. Fokker was quick to realise the possible requirements of the American market, as the Universal was one of the first four-five-seater commercial aircraft to be fitted with a 200 h.p. Wright Whirlwind engine.

Its construction follows Fokker, and incidentally American, practice in having a welded-steel tube fuselage, wooden wing, tail unit with steel-tube frame, and a divided undercarriage.



The cabin, which is under the wing, is normally fitted with four seats with ample baggage space behind. If desired, two more seats can be fitted in this space, or part of it can be equipped as a lavatory. For carrying mail or express goods the whole or part of the cabin can be completely walled-in with wood or metal.

The inside dimensions of the cabin and baggage space are: length, 9 ft.; width, 3 ft. 5 ins., and the height varies from 5 ft. 6ins. at the front to 4 ft. 6in. at the rear of the baggage space. The total available load space is 146 cubic feet. Sliding windows are provided, and a cabin heater, taking in clean heated air from the exhaust pipe, can be installed when desired.

The pilot's cockpit is situated under the leading edge of the wing, and in the latest models this is arranged to seat two side-by-side. The controls are set sufficiently over to one side to be comfortably operated by either occupant, and the stick and aileron cables are so arranged that the stick can be moved to a central position when the cockpit is arranged for one pilot only.

A glass top with sliding windows at the sides can be provided over the cockpit if desired.

The wing, of veneer-covered Fokker construction, is bolted direct to the top longerons of the fuselage and is braced on either side by two pairs of parallel steel-tube struts. The front struts are attached to two detachable steel-tube tripods on the sides of the fuselage to which the telescopic vertical legs of the undercarriage are also attached. Two Vees, hinged to the bottom longerons, the apices of which are attached to these vertical struts, form the divided undercarriage.

The wing is normally built in one piece, but it is arranged so that it can be cut into two when desired, the joint fittings being in place and ready for use after cutting. However, for land transport in America the one-piece wing is small enough to permit it being loaded on a standard covered railroad freight-car so that it need only be cut when it is required for shipment overseas, an interesting little point to show how all requirements are considered.

The tail unit is of standard Fokker type. The tail-plane is adjustable in flight and the control surfaces are balanced.

The engine is mounted on a quickly detachable mounting and the exhaust manifold is built up of a number of short lengths of flexible metallic tubing with rigid joints which permits of the removal of individual cylinders without removing the manifold.

Two petrol tanks with a total capacity of 78 gallons are mounted in the wing.

The Fokker Universal can be supplied with an interchangeable float installation, and skis can be used in place of the wheels. In one machine supplied for use in Honduras a third wheel has been fitted under the nose to guard against the possibility of nosing over when landing in rough country.

Specification.

Span	47 ft. (14.3 m.)
Length	33 ft. (10 m.)
Height	8 ft. (2.44 m.)
Useful load	1,500 lbs. (681 kgs.)
Speed, max	118 m.p.h. (188.8 km.p.h.)
Speed, cruising	95 m.p.h. (152 km.p.h.)
Climb to 3,300 ft. (1,000 m.)	5½ mins.
Climb to 6,500 ft. (2,000 m.)	12 mins.
Climb to 10,000 ft. (3,050 m.)	21 mins.
Ceiling	14,000 ft. (4,700 m.)

The Ryan Brougham.

The Ryan B-1 or Brougham is a five-seater commercial monoplane fitted with the 200 h.p. Wright Whirlwind engine and is produced by the B. F. Mahoney Aircraft Corporation of San Diego, California. This company, which was formerly known as the Ryan Airlines, Inc., achieved considerable fame early this year as the producers of the "Spirit of St. Louis" on which Capt. (now Col.) Charles Lindbergh flew from San Diego to Paris by way of St. Louis, New York and the Atlantic.

The Ryan Brougham is the production model of the Trans-Atlantic Ryan model, which it resembles in all respects except for the provision of comfortable accommodation for four passengers in place of the big fuel tanks and the placing of the pilot in front of the cabin instead of behind the wing.

The construction follows conventional American practice in that fuselage and tail units are welded steel tube structures and the wing is of wooden construction.

The cabin is placed under the wing. The pilot is in front of the cabin under the leading edge and the passengers are accommodated in pairs behind. It is comfortably upholstered and is lined with balsam wool (N.B.—Not balsa wood, but a cotton-like product from the balsam plant), which minimises engine and airscrew noises and insulates the interior from extremes of heat and cold. The sides and front are amply provided with windows, and a door on either side provides easy access to the cabin.

The wing is in one piece and is attached direct to the top longerons of the fuselage and is braced to the bottom longerons by two pairs of parallel steel tube struts which are streamlined to an airofoil section by balsa wood fairing.

GLOSTER

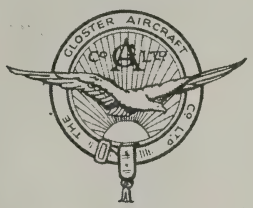
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Nº 3061·2·3·4 CHELTENHAM



GLOSAIRCRA CHELTENHAM



BROCKWORTH WORKS AND AERODROME GLOS

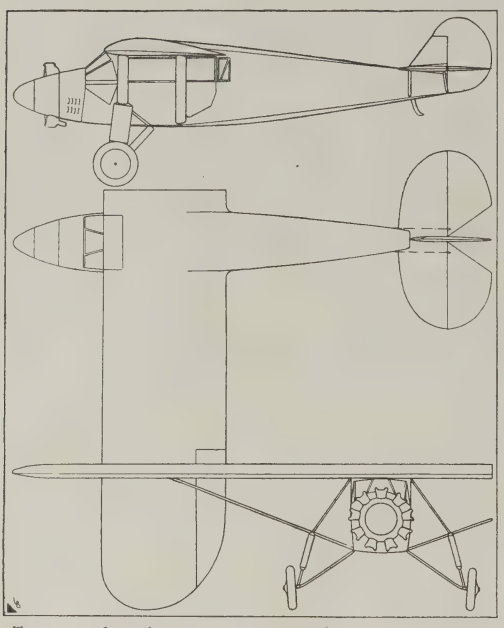
SUNNINGEND WORKS CHELTENHAM GLOS.



Gloster "Goral" *"Flight" photograph*

The Gloster "Goral" is an entirely all-metal production and is fitted with a Bristol Jupiter Series VI engine. The machine has been designed to be used as a general purpose or light bomber type. It carries the usual armament, 84 gallons of petrol and a useful load of 1,000 lbs.

SASSOON CUP RACE, GLOSTER "GAMECOCK" 1st, 2nd & 3rd.



Two petrol tanks, each of 41½ gallons capacity, are mounted in the wing and feed the engine by gravity.

The undercarriage is of the split type. The main shock-absorber members are attached to the front wing bracing struts, their points of attachment being braced both to the top and bottom longerons by steel tubes. The bottom ends of the shock-absorber units are hinged to the fuselage by two steel tube Vees, the front legs of which form the axles.

The tail unit is a welded steel-tube structure covered with fabric. The tail plane is adjustable in flight through a range of 9 degrees. The tail skid consists of two tubes sliding one within the other, the vertical loads, as well as the horizontal movement of the whole, being taken by rubber shock-absorber cord.

The engine is mounted on a welded-steel tubular ring and is attached to the fuselage by four bolts. A five-gallon oil tank is mounted behind the engine.

SPECIFICATION.

Span ..... 42 ft. (12.8 m.)	Weight loaded 3,300 lbs.. (1,498.2 kgs.)
Length ... 27 ft. 9 ins. (8.46 m.)	Speed, max. 126 m.p.h. (201.6 km.p.h.)
Height ... 9 ft. 10 ins. (2.99 m.)	Speed, landing 49 m.p.h. (78.4 km.p.h.)
Wing area 294 sq. ft. (27.34 sq. m.)	Climb, full load 900/1,200 ft./min. (274.5/366 m./min.)
Weight empty 1,800 lbs. (817.2 kgs.)	Service ceiling 16,000 ft. (4,880 m.)
Pay load ..... 800 lbs. (363.2 kgs.)	
Total useful load 1,500 lbs. (681 kgs.)	

The Stinson Detroiter Monoplane.

The Stinson Detroiter is a five-seater cabin monoplane fitted with a 200 h.p. Wright Whirlwind engine. In this country it is probably best known as the machine on which Messrs. Brock and Schlee made their extraordinary flight from Harbour Grace, Newfoundland, to Tokyo this summer.

The cabin is under the wing and has accommodation for pilot and four or five passengers. The sides and front of the cabin are glazed with non-splinterable glass and all the windows, with the exception of those forming the wind-screen, may be opened. Two cabin-heaters from the exhaust-pipe are provided for winter flying.

The pilot's controls consist of a wheel for the elevator and ailerons and pedals for the rudder. Wheel brakes are fitted and can be operated either independently or together by a heel-operating device.

The wing section is of the constant-pressure and inherently stable type. The wing structure consists of two spars, the front one routed out and the back one solid, and stamped metal ribs, the whole being covered with fabric. The ailerons are built up of steel tubes and are operated by direct push-and-pull rods.

The wing is braced to the fuselage by two pairs of parallel steel tube struts. These struts are faired to a wing section by balsa wood and are fitted with screw adjustment for rigging purposes.

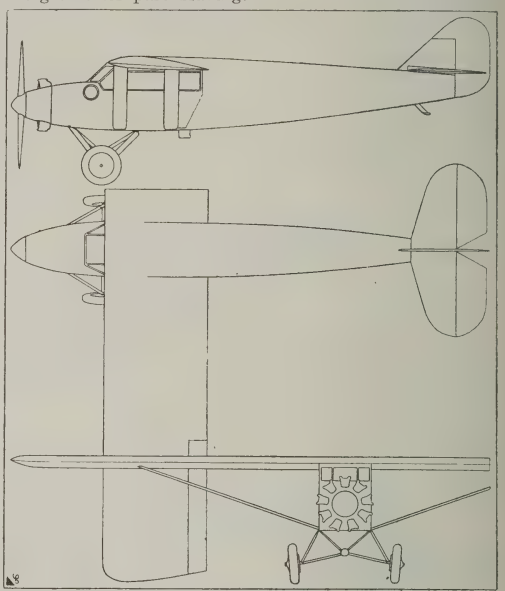
The tail unit is of welded steel tube covered with fabric. The tail plane is adjustable in flight and the fin is offset to counteract torque. Elevators and tail plane are operated by push-rods and the rudder by cables.

The engine mounting is of chrome-molybdenum steel tubing and is attached to the fuselage by four bolts.

The two petrol-tanks, each of 35 gallons capacity, are in the wing, one on either side of the fuselage.

The undercarriage is of the divided type and consists of two Vees hinged to the bottom longerons of the fuselage, one on either side, and a small pyramid of steel tube struts under the fuselage. To the apices of the two Vees are attached two inclined axles, the outer ends of which carry the wheels, the inner ends being anchored to the inverted pyramid through rubber shock absorber. On landing the two Vees and the wheels move outwards against the action of the almost horizontal shock-absorber units.

Wheel brakes are fitted as standard and can be operated either independently for taxy-ing or turning on the ground or together for pure braking.



SPECIFICATION.

Span ..... 45 ft. 10 ins. (13.97 m.)	Weight of fuel and oil 465 lbs. (211.11 kgs.)
Length ... 32 ft. 10 ins. (10 m.)	Weight loaded 3,310 lbs. (1,502.74 kgs.)
Height ..... 9 ft. (2.74 m.)	Speed, max. 126 m.p.h. (201.6 km.p.h.)
Wing area 292 sq. ft. (27.15 sq. m.)	Speed, cruising 105 m.p.h. (168 km.p.h.)
Weight empty 1,970 lbs. (894.38 kgs.)	Speed, landing 54 m.p.h. (86.4 km.p.h)
Weight of pilot and 4 passengers 875 lbs. (397.25 kgs.)	

The Travel Air Transport Monoplane.

The Travel Air commercial monoplane was produced about a year ago by the Travel Air Manufacturing Company of Wichita, Kansas, and since the production of the first machine, eleven further machines have been built, eight of which are in regular use on the Chicago—Dallas mail and passenger route operated by the National Air Transport, Inc., and two have been flown from San Francisco to Hawaii, the first being the first commercial machine to fly across the Pacific and the second being the winner of the Dole Prize.

The Travel Air is a normal cabin monoplane with an externally-braced wing and is fitted, like nearly all successful American civil machines, with the 200 h.p. Wright Whirlwind engine.

The fuselage is of welded steel tube and is cross-braced aft of the cabin only. The engine is carried on a steel-tube ring which is attached to the fuselage by a supporting frame and four bolts. By undoing these bolts, the engine, complete with its mounting and instrument board, can be removed in fifteen minutes.

Immediately behind the engine is the pilot's cockpit. The pilot is situated high up on the front of the leading-edge of the wing. Over his head is a transparent cupola, which has two sliding windows, one on each side, for bad weather flying.

This cupola is attached to the top surface of the wing and is so shaped that the air flow is constantly tending to suck it off. In the event of emergency a quick-release device frees it and provides an easy exit for the pilot. On either side of the cockpit are ample windows so that the pilot is pro-

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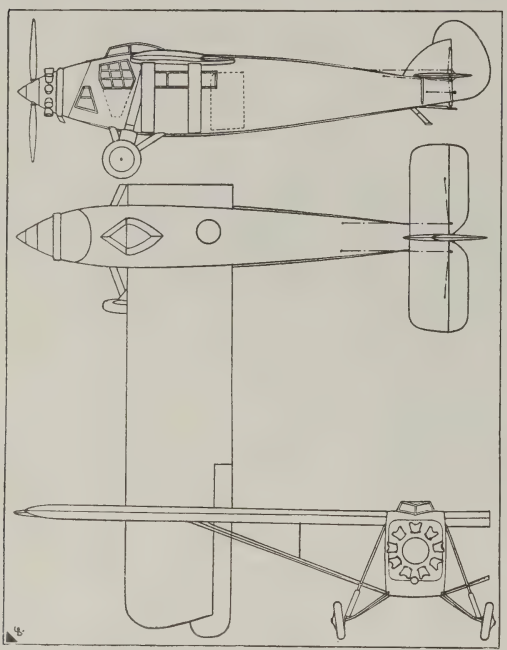
The efficiency of "Titanine" is not affected by adverse weather conditions. This is proved by the experience of some of the world's greatest airmen during flights over vast distances when extreme variations of temperature were encountered. Cold, heat and the abnormal humidity of tropical climates have no slackening effect upon the 'planes if these are coated with "Titanine." "Titanine" means uniform Tautness.

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vided with excellent vision all round, a necessary feature for night flying.

The pilot's seat is adjustable for height and inclination and is very comfortably upholstered. The controls are of the stick and rudder-pedal type and above the rudder-pedals are the wheel-brake controls.

The cabin is immediately behind the cockpit and under the wing and has accommodation for four passengers.

The wing is built up of two wooden spars and Warren-type ribs, the whole being covered with fabric. The leading-edge is covered with metal above and below back to the front spar. The two sets of parallel wing-bracing struts are of steel tube streamlined with metal and fabric-covered. The back struts are adjustable for incidence.

The main fuel tanks are carried in the wing close up to the fuselage, and from them the feed is entirely by gravity. The landing lights are also accommodated within the wing and can be dropped down and held rigidly in place by cable control from the cockpit.

The undercarriage is of the divided type and consists of two units of three struts. The longer leg of each unit is attached to the top longeron and is fitted with telescopic shock absorbers. The other two legs, one of which forms the bent axle, are in the form of a Vee and are hinged to the bottom longeron.

The tail unit is conventional. The tail plane is adjustable for incidence while flying.

The normal load of the Travel Air Monoplane is pilot and four passengers with 50 lbs. of luggage or pilot and 750 lbs. of mail and express matter.

SPECIFICATION.

Span ..... 51 ft. 7 ins. (15.72 m.)	Speed, cruising (at sea level) 108 m.p.h. (172.8 km.p.h.)
Length ... 30 ft. 5 ins. (9.27 m.)	Speed at 10,000 ft. 111 m.p.h. (177.6 km.p.h.)
Height ..... 8 ft. 9 in. (2.6 m.)	Speed, landing 55 m.p.h. (88 km.p.h.)
Wing area 312 sq. ft. (29 sq. m.)	Climb at sea level 750 ft. per min. (230 m. per min.)
Weight empty 2,160 lbs. (980.64 kgs.)	Climb at 10,000 ft. 270 ft. per min. (82 m. per min.)
Useful load 1,440 lbs. (653.76 kgs.)	Ceiling, service 13,600 ft. (4,148 m.)
Pay load ..... 750 lbs. (340.5 kgs.)	
Weight loaded 3,600 lbs. (1,634.4 kgs.)	
Speed, max. (at sea level) 123 m.p.h. (196.8 km.p.h.)	

The Pitcairn Mailwing.

The Pitcairn PA-5 or Mailwing is a small high-performance mailplane fitted with the 200 h.p. Wright Whirlwind J-5C engine which has been produced for use on the New York—Atlanta route, for the operation of which Pitcairn Aviation, Inc., holds the contract. It was designed with recognition of the fact that at least during the early stages of the development of this route, the mail loads would be somewhat limited and therefore a load-capacity of 500-600 lbs. of mail matter combined with a high speed of 136 m.p.h. was considered to be the most advantageous compromise.

The fuselage is built up on the Warren-truss principle of square tube longerons and round tube cross-members, the whole welded together. The mail compartment of 26 cubic feet capacity, is situated in front of the pilot's cockpit, partially under the petrol tank and over the centre of gravity.

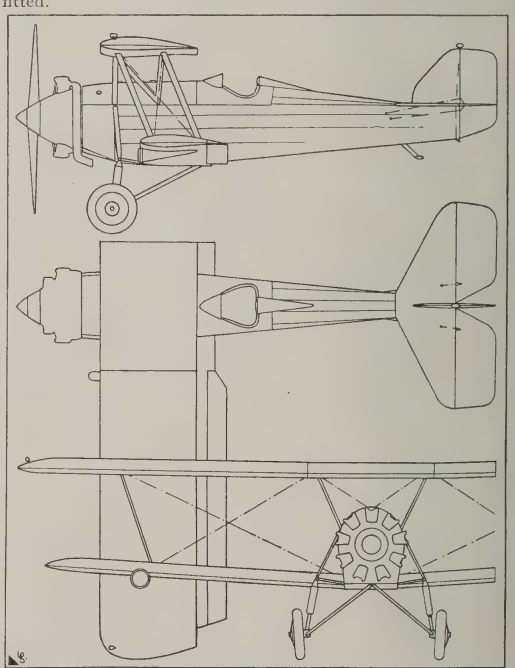
The wing structure consists of four wing panels and a top centre-section, the bottom wings being attached direct to the bottom longerons. The wings are built up of routed spruce spars and plywood ribs, the whole being fabric-covered. There is one set of parallel steel tube interplane struts on either side of the fuselage. Ailerons are fitted to the bottom planes only. There is a stagger of 22 inches and the top plane has a dihedral of 1 degree and the bottom planes one of 4 degrees.

The tail unit is constructed throughout of welded steel tubing fabric-covered. The tail-plane is adjustable in flight.

The undercarriage is of the split type and consists of two short horizontal struts, one on either side braced to the top longerons, to which are attached two vertical oleo shock-absorber units. To the bases of these units are attached the apices of two steel tube Vees, the top ends of which are hinged to the centre line of the underside of the fuselage. The wheel tread is 6 feet 4 inches. The wheels are fitted with Sauzedde wheel brakes.

The engine mounting, complete with a five-gallon oil tank, is quickly detachable. The 60-gallon petrol tank is mounted immediately behind the engine to which it feeds by gravity. A pressure fire-extinguishing system is provided.

The Mailwing can also be provided as a passenger-carrier with an open cockpit for two passengers in place of the mail compartment. Full night-flying equipment is fitted.



SPECIFICATION.

Span, top plane ... 33 ft. (10.06 m.)	Weight loaded 2,512 lbs. (114.04 kgs.)
Span, bottom plane 30 ft. (9.15 m.)	Speed, max. 136 m.p.h. (217.6 km.p.h.)
Length ... 21 ft. 10½ ins. (6.67 m.)	Speed, cruising 105 m.p.h. (168 km.p.h.)
Height ..... 9 ft. (2.74 m.)	Speed, landing 45 m.p.h. (72 km.p.h.)
Wing area 252 sq. ft. (23.43 sq. m.)	Cruising radius 600 miles (960 kms.)
Weight empty 1,612 lbs. (731.84 kgs.)	

WHEEL-BRAKES.

Col. J. S. Matthew, who is in charge of the Manufacturers' Division of the Dunlop Rubber Co. Ltd. at Fort Dunlop, Erdington, Birmingham, writes to say that his firm are studying carefully the problems of brakes on aeroplane wheels. They have already prepared braking schemes for some of the leading aircraft manufacturers, especially in connection with the heavier types of machines. He will be pleased to hear from any aircraft constructor or designer who is interested in the subject.



The **WESTLAND WIDGEON** is the outstanding Light Monoplane of the year. Fastest light aeroplane to finish in the King's Cup Race, 1927.

The 1928 Model WIDGEON

is an advance on all previous light Aeroplanes—the ideal 'plane for Private Owners and for Flying Clubs.

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***ANOTHER SUCCESS*—1st** in Queensland Aerial Derby Speed Championship Cup.
November 12th, 1927. Flown over a 45 miles triangular course.

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THE ROYAL AIR FORCE.

The London Gazette.

Nov. 29.

General Duties Branch.—D. J. T. Haynes is granted a perm. comn. in the rank of Plt. Off. with effect from Nov. 15 and with seniority of Nov. 15, 1926. The following Plt. Offs. are promoted to the rank of Flg. Off.:—W. F. Lovering, L. S. T. Brown (July 12); E. C. Foreman (Sept. 13); W. G. Woolliams, C. Warsow, P. S. Cook (Oct. 11); A. M. D. Howes, W. E. P. Johnson, P. G. Lucas, A. Allen, L. G. Martin (Nov. 8); L. C. L. Murray, E. H. Irving, F. Townsend, A. A. Koch (Oct. 26).

Wing Cdr. W. R. Read, M.C., D.F.C., A.F.C., is placed on the retired list at his own request (Nov. 14); Flt. Lt. M. A. Simpson is placed on the retired list on account of ill-health (Nov. 30); Flg. Off. R. F. Findlay resigns his perm. comn. (Nov. 13).

Medical Branch.—The following are granted S.S. comns. in the rank of Flg. Off. for three years on the Active List, with effect from and with seniority of Nov. 15:—V. V. Brown, M. Clancy, W. Heron, M.B., F. E. Lipscomb, J. F. McGovern, M.B., C. P. O'Toole, S. B. S. Smith, G. H. J. Williams, D.A. Wilson. The following Flg. Offs. are promoted to the rank of Flt Lt.:—E. Thompson (Nov. 22), E. A. Aslett (Dec. 1). Flt. Lt. J. E. Cox relinquishes his temp. comn. (Nov. 5).

Reserve of Air Force Officers.—General Duties Branch.—R. F. Findlay is granted a comn. as Flg. Off. in Class A on resignation of perm. comn. (Nov. 13). Plt. Off. J. H. Gresham is promoted to the rank of Flg. Off. (Nov. 26). Plt. Off. on probation E. E. Fresson is confirmed in rank (Nov. 17).

Plt. Off. D. J. T. Haynes resigns his comn. on appointment to a perm. comn. (Nov. 15). The following Flg. Offs. relinquish their comns. on completion of service:—W. A. Syme (Sept. 18), W. Woodman (Sept. 18), P. Smallwood (Oct. 7), P. Chauncy (Nov. 24).

Medical Branch.—Flg. Off. C. J. MacQuillan, M.B., B.A., is transferred from Class Dii to Class Di (Nov. 26).

Auxiliary Air Force.—General Duties Branch.—The following to be Plt. Off.:—No. 602 City of Glasgow (Bombing) Sqdn.—W. H. Mitchell (Nov. 1).

Appointments.

Week ending Dec. 5.

General Duties Branch.—Air Commodore J. L. Forbes, O.B.E., to H.Q., Inland Area, Stanmore, for duty as Chief Staff Officer, 12/12.

Wing Commander N. J. Gill, C.B.E., M.C., to Air Ministry, on appointment as Deputy Director of Technical Development, 12/12.

Squadron Leaders F. Fernihough, M.C., to No. 23 Group H.Q., Grantham, instead of to No. 22 Group H.Q., as previously notified, 1/10. L. G. S. Payne, M.C., A.F.C., to R.A.F. Depot, Uxbridge, 5/12. A. W. Mylne, to R.A.F. Base, Gosport, 2/12. A. R. Arnold, D.S.C., D.F.C., to No. 9 Sqdn., Manston, 12/12.

Flight Lieutenants H. E. Forrow, to R.A.F. Depot, Uxbridge, 4/11. H. M. Massey, M.C., to C.F.S., Wittering, 12/12. C. A. B. B. Wilcock, A.F.C., to M.A.E.E., Felixstowe, 5/12. R. C. Savery, D.F.C., to No. 5 F.T.S., Sealand, 21/11.

Flying Officers W. R. Day, to Sector Signal Section, North Weald, 11/10. C. M. Heard, to No. 4 Sqdn., Farnborough, 18/11. C. H. V. Hayman, to School of T.T. (Men), Manston, 9/12. H. Buxton, to No. 1 School of T.T. (Apprentices), Halton, 9/12. W. G. Woolliams, to No. 99 Sqdn., Bircham Newton, 21/11. P. S. Cook, to No. 207 Sqdn., Eastchurch, 22/11. S. C. Black, M.M., to No. 45 Sqdn., Middle East, 18/11. F. C. Rowland, to No. 26 Sqdn., Catterick, 8/1. B. B. Dowling, to No. 2 Sqdn., Manston, 24/11. V. G. H. Gee, to R.A.F. Depot, Middle East, 13/11.

Pilot Officers F. L. Lawrence, to No. 41 Sqdn., Northolt, 24/11. D. J. T. Haynes, to No. 1 F.T.S., Netheravon, on appointment to a Perm. Comn., 15/11.

Medical Branch.—Flight Lieutenant J. McC. Kilpatrick, M.B., to Princess Mary's R.A.F. Hospital, Halton, 28/11.

Stores Branch.—Flight Lieutenant P. F. Connaughton, to H.Q., Middle East, 18/11.

Accountant Branch.—Flying Officer R. Cassels, to No. 39 Sqdn., Spittlegate, 1/12. Pilot Officer J. E. Gregson, to No. 2 F.T.S., Digby, 23/11.

A Fatal Accident.

The Air Ministry regrets to announce that as the result of an accident at Enfield to a Fairey Fox machine of No. 12 (Bombing) Squadron, Andover, on Dec. 3 Fl. Off. Robert Darley Whelan, the pilot of the aircraft, and 357736, A.C. 2 Henry Arthur Lacy were killed.

Apparently the crash was the result of a forced landing in thick fog.

The Cairo-Kano 1927 Flight.

The Service Flight, under Wing-Cdr. F. W. Stent, M.C., which left Heliopolis on Oct. 27 to fly to Kano and back on Service Exercises, ended on Nov. 29, when one of the three machines of the Flight reached Heliopolis. Of the other two, one crashed at El Fasher on the outward journey, and the second broke an airscrew-shaft at El Obeid on the homeward journey.

Commands and Staff.

Air-Commodore J. L. Forbes, O.B.E., whose appointment as Chief Staff Officer, Inland Area, Stanmore, is dated Dec. 12, was born in 1880, and entered the Royal Navy in 1899. He became a Commander, R.N., in December, 1915, and a Wing-Commander, R.N.A.S., in March, 1916. In April, 1918, he was transferred to the R.A.F. with the rank of Lieut.-Colonel, and became a Group-Captain, R.A.F., in August, 1919. He was awarded the O.B.E. in October, 1919, for distinguished services during the War. In July, 1921, he was appointed to command No. 10 Group, Lee-on-Solent. In 1924 he was appointed Deputy-Director of Armament at the Air Ministry, and in 1926 he was appointed Director of Technical Development at the Air Ministry. He was promoted to the rank of Air Commodore in July, 1926.

Wing-Commander N. J. Gill, C.B.E., M.C., whose appointment as Deputy-Director of Technical Development at the Air Ministry is dated Dec. 12, was born in 1890 and educated at Rugby and Woolwich, and passed into the R.A. in 1910. He learned to fly at Brooklands on a Deperdussin monoplane, and his Royal Aero Club Certificate, No. 174, is dated Jan. 16, 1912. He joined the R.F.C. in 1913, and was promoted Flight-Commander in December, 1914. He was appointed Brigade-Major, R.F.C., in Sept., 1915, to Brig.-Gen. J. F. A. Higgins, and served with him constantly thereafter. He became Temp. Lieut.-Colonel in June, 1917. He was awarded the Military Cross on Jan. 1, 1917, for distinguished service in the field, and appointed C.B.E. on Jan. 1, 1919, for valuable services in connection with the War. He commanded the Aeroplane Experimental Establishment, Martlesham Heath, from 1922 to 1924, when he joined a course at the London University. In September, 1925, he was appointed to H.Q. 'Iraq Command for Technical Staff Duties.

No. 10 Squadron.

The following notes on the history of No. 10 Squadron have been received from a member of the original Squadron.

No. 10 Squadron was formed at Netheravon and went overseas in June, 1916, under the command of Major U. J. D. Bourke, of the pre-War No. 2 Squadron, R.F.C., now Group Captain, R.A.F.). The machines went to Chôques *via* St. Omer, under Capt. C. Gordon Bell, the senior Flight Commander. The rest of the Squadron went by transport from Southampton to Rouen and then by road to Chôques.

No. 10 Squadron in its early days was equipped with B.E.2cs (70 h.p. Renault engines), and had very special little Willesden canvas bags for Observers to be sick into. Our correspondent comments:—"Observers seemed to be sick in those days, I rather think it was due to the foul-smelling oil that was used." The Renault engines were later changed to 90 h.p. Rafs.

Capt. Mitchell, originally in No. 4 Squadron, R.F.C. (now Group Captain, R.A.F.), took over from Major Bourke, and other officers of the Squadron were Lts. Gould (now Wing Commander, R.A.F.), and Rabagliati (now Lt.-Colonel, R.A.F., retired).

No. 10 Squadron settled down to W/T work with the Gunners, over an area which included, roughly, La Bassée in the South and the Northern end of Aubers ridge. At one time it went as far south as Lens.

It also made daily long reconnaissances consisting of Turcoing or Lille—Tournai—Valenciennes—Denain—Douai, which varied as to the exact route from day to day.

R.A.F. SPORTS AND PASTIMES.

The Younger Generation.

Rugby Football:—The R.A.F. Cadet College, Cranwell, beat an R.A.F. Trial XV at Cranwell on Nov. 23, by 34 points to nothing. The Trial XV consisted of people being tried out and was purely a hunt for new or promising material. The Cranwell Team was at full strength and playing on their own ground. A spectator of the three important matches played by Cranwell writes:—

Cranwell v. Sandhurst was a farcical affair. Sandhurst have their best team since the War and they, for the first time, beat the Army trial side—a strong team this year—by 20 points to 6. Cranwell fielded a side with three important people away and Sandhurst, playing brilliantly on their own ground, made merry in true style.

Woolwich have also got their best post-War side and are, I believe, an unbeaten side this year. Their match with Cranwell showed truer form. Woolwich won 14—11 from a try in the last ten minutes. Cranwell were 11—0 after thirty minutes' play and 11—3 at half-time. The day was atrocious—solid rain and wind and mud and the Shop had had no mud comparable to it this year. The result was a correct description of the play.

Incidentally Sandhurst beat the Shop by a goal and a try to a try, at Richmond on Nov. 29. Thus is Cranwell credit restored in the Rugger world. But the outlook of the R.A.F. representative side in inter-Service Rugger seems to be decidedly poor.

The W.R.A.F. Bazaar.

Air Vice-Marshal Sir Sefton Brancker, K.C.B., A.F.C., opened a Bazaar at the Queen's Westminsters' Hall on Dec. 3 in aid of the W.R.A.F. Old Comrades' Association Benevolent Fund. In declaring the Bazaar open Sir Sefton wished it every success and the Association the best of luck. He said that the W.R.A.F. had done excellent work in the past and that he thought that in the event of another war pilots of the W.R.A.F. would do all the ferrying and other similar flying for the Service. (One bloodthirsty female in the crowd was heard to say that she intended to drop a few bombs.)

Sir Sefton then visited all the stalls and set a splendid example of generous spending and a total disregard of the inconvenience of being loaded up with parcels.

The Bazaar realised about £150 for the fund.

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THE AIR ARMS OF EUROPE.

Every officer, or man, in the R.A.F. who takes his profession seriously should read the series of articles on The Air Arms of Europe, by Major W. de B. Whittaker, the King's Regiment, and formerly on General Ashmore's Staff, in the London Air Defence Area, which began in *The Army, Navy, and Air Force Gazette*, dated Nov. 26.

These articles contain information which cannot be got out of any other publication. A knowledge of the facts in them is essential to anyone who wishes to make the best of his opportunities in the next war, or even in time of peace. The *Gazette* costs a shilling (from 22, Essex Street, W.C.2), but these articles would be cheap at any price.—C. G. G.

NAVAL OPERATIONS.

Apropos the bombing of the *Goeben*, to which reference was made in this section of The Aeroplane last week, Flt. Lt. A. F. Marlowe, Reserve of Air Force Officers, writes disclaiming the credit for having hit the ship. He says that the hitting was the work of his observer, P.O. Sherlock, now, he believes, in Jamaica. He adds that other hits were reported by Flt. Lt. Gilmore and his observer, Flt. Sub. Lt. Piper, whose names will be recalled with pleasure by old Eastern Mediterranean pilots.

During the *Goeben* activities, when bombs were being rained on the ship day and night, probably many hits were reported, but few were officially confirmed, in which case Flt. Lt. Marlowe remarks, the original paragraph about Mr. Worrall, D.S.C., would probably be correct.

The thing chiefly to be regretted is that at that time we had no 4,000-lb. bombs, such as those with which the U.S. Army Air Service, a year or so after the War, demonstrated to the U.S. Navy, on some old surrendered German warships, that the right way to sink a ship is not to try to pierce its deck armour, but to put enough explosive into the sea alongside the ship to blow her clean out of the water and break her back.

That is probably a better way of doing the job than torpedoing. But the British Navy still refuses to allow the R.A.F. to experiment along those lines with obsolete warships, such as the Navy itself uses for torpedo and gunnery practice.

At the time when the *Goeben* was aground outside the Dardanelles the R.N.A.S. had nothing but little futile bombs, most of which bounced off the deck. At any rate, they did so little damage that, when the ship was persuaded to float again by lightening her, she was able to reach Constantinople under her own steam. The worst damage, one believes, was done by one gallant pilot who, instead of using an ordinary bomb, dropped the war-head of a torpedo onto the *Goeben*, at unusual personal risk.

LAWRENCE IN THE R.A.F.

Referring to the review of "Lawrence and the Arabs" in The Aeroplane of Nov. 30, a correspondent states that Mr. Graves' statement that Lawrence served for six months in the R.A.F. without his identity being suspected is not correct. This correspondent, who is no longer in the R.A.F., writes :—

I do not think anyone sold the information because it was public property of the Unit, and the Press were bound to hear sooner or later . . . . You can take my word for it that everybody knew.

AIR AFFAIRS IN PARLIAMENT.

R.A.F. EQUIPMENT.

In the House of Commons on Nov. 30, Mr. Robinson asked the Secretary of State for Air the number of aeroplanes possessed by the Air Force and the number of these that were built prior to January, 1919, and in each of the years ending January, 1920, 21, 22, 23, 24, 25, 26, and 27 respectively. Sir Philip Sassoon said that the present first line strength of the Air Force was approximately 750 machines. None of these had been built before 1919. It would not be in the public interest to give the other information requested.

[Presumably Sir Philip Sassoon means that there are no first line machines in the R.A.F. which have not been *re-built* since January, 1919. According to the current Air Force list nine regular Squadrons of the R.A.F. are still equipped with machines of 1917 design, either re-conditioned or of new construction, and ten regular Squadrons of the R.A.F. are still equipped with machines of 1918 design, re-conditioned or of new construction.—Ed.]

Commander Bellairs asked why there was this secrecy with regard to aeroplanes when there was no secrecy with regard to ships and other things in other departments. Sir Philip Sassoon said that other Governments did not give this information.

[It would be interesting to watch Commander Bellairs trying to get a photograph of Malta out of the Admiralty.—Ed.]

R.100.

In the House of Commons on Nov. 30, in reply to a question by Mr. Rose, the Under-Secretary of State for Air said that he had seen the photographs published in the Press of the airship R.100 in the course of construction at Howden. There appeared to be no objection to their publication. No photographs which revealed the technical details of the structure had been published by his authority. Mr. Rose asked Sir Philip if he had assured himself that these photographs were not enlargements of some schoolboy's essay with a No. 3 Meccano set.

THE MARRIAGE FEAST.

On Monday, Dec. 5, Sir Charles Wakefield, Bart., C.B.E., of the ever-ready pocket, gave a Dinner at the Savoy to celebrate the incorporation of the Institution of Aeronautical Engineers in the Royal Aeronautical Society. Some months ago Sir Charles had issued invitations to a Dinner at which the annual awards of the Institution were to be presented, but somebody connected with the R. Ae. S. represented to him that the Institution ought not to be encouraged in that way pending negotiations for amalgamation. So the Dinner was cancelled. This party, which Sir Charles amusingly called a wedding feast, took its place.

At it the Taylor Gold Medal for 1927 was presented to Capt. F. S. Barnwell, of the Bristol Co., for his paper on "Some Notes on the Design of Airscrews," as the most valuable paper during the session.

The Silver Medal of the Council of the Institution was presented to Sq. Ldr. G. H. Reid for the best contribution to the science of aeronautics during the year, these being the Reid Turn Indicator and the Reid Reaction Indicator.

The first of the annual Gold Medals bearing Sir Charles Wakefield's name was presented to Mr. M. L. Bramson for the best invention or apparatus tending towards safety in flying. The invention in question is the Savage-Bramson Anti-Stall Gear. Mr. Bramson freely admits that the automatic Handley Page Automatic Slot largely washes out the value of his Anti-Stall Gear. And actually the invention of the non-automatic Handley Page Slot antedates Mr. Bramson's Anti-Stall Gear by some six years. But we must remember that the award of the Wakefield Medal to Mr. Bramson was made long before the Handley Page Automatic Slot was invented, and the presentation has been hung up owing to the machinations which so long prevented the amalgamation of the two organisations. And, incidentally, but for the usual obstructionism in the Technical Departments of the Air Ministry, the Bramson Anti-Stall Gear might have been in use long enough ago to have saved a number of valuable lives.

Having made the presentations Sir Charles Wakefield proposed the toast of "The Royal Aeronautical Society with which is incorporated the Institution of Aeronautical Engineers." He described it as a marriage of Winter and Spring, the R.Ae.S. being the oldest Society of its kind in the World, while the Institution was young in years though not in wisdom. He ascribed the credit for the amalgamation to Col. Sempill, Col. Moore-Brabazon, Mr. Handley Page, Mr. Frederick Sims and Mr. Norman Hulbert.

Air Vice-Marshal Sir Sefton Brancker, replying as President of the R.Ae.S., said that the bride was only born in 1919. But already she had done the Society a lot of good. As to aviation in general, he said that we needed more influential people in it. People with money had to be convinced of the value of flying.

He told a delightful story of a Jew lady who wanted her small boy to become a famous pianist. The said small boy showed no inclination to do so. She took him to a concert at the Albert Hall where a famous pianist was playing, asked for cheap seats and was told that they were all sold out; asked for middle-priced seats and was told they were all sold out too; asked for higher priced seats and was told that even they were sold out; whereupon she turned to the small son and said, "Now, Ikey, vill you practice?".—When people saw there was money in aviation they would practise it.

As an illustration he said that Avros improved in value like old furniture. One man he knew bought an Avro seven years ago for £75 and sold it the other day for £350. The latest buyer said that it was the best Avro he had ever flown.

Sir Sefton said that the slogan of all the societies must be Solidarity, and he said that Sir Charles was the patron Saint of Aviation.

Lieut.-Col. Moore-Brabazon, after a brief dissertation on marriage customs, said that, as representing the young bride in this arrangement, he hoped she might depend on the fidelity of her spouse, although he had confessed to affairs with the Royal Aero Club and the Air League. Speaking seriously, he said that the factions in both Societies who were against amalgamation were out to do their best now that they had been fairly beaten.

Aviation, he said, was in a queer state. The Industry was kept alive by Government orders, Civil Aviation by subsidy and the rest was kept by Sir Charles Wakefield.

He was not surprised at the Air Ministry refusing to support the effort to win the Schneider Trophy. We did not expect the Admiralty to support the Royal Yacht Squadron in an attempt to win the America Cup, nor did we ask Admiral Beatty to command the yacht.

He then presented cigarette cases as tokens of regard from the Institution to Mr. Howard Flanders, the first Secretary, Mr. Hulbert, the last Secretary, and Mr. Wingfield, the Institution's solicitor (and now Labour Candidate for the Banbury Division of Oxfordshire).

Sir Frank McClean said that the Royal Aero Club was pleased at the amalgamation. Premissing his remarks by the statement that he was not a scientist, he said that the early days of aviation when centres of pressure had not been invented taught mathematicians a lot. In those days a race was a race and not a mathematical tripos.

Mathematics came in about 1911 and the Royal Aeronautical Society became useful. Flying at that time was disliked by the Navy and Army as upsetting their plans.

When we were talking about Civil Aviation we must not forget that Mr. Thomas Holt was the pioneer of that branch. He said, only half jokingly, that the Society of British Aircraft Constructors was a handicap to the sport of flying. When private flying grew it would produce real races. At present Air Survey was the only kind of aviation which paid for itself. Apart from that Sir Charles Wake-

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field was always ready to help the aviation of discovery of trade routes and geography.

Col. Sempill reminded us that Sir Frank was the Father of the R.N.A.S. He said that the amalgamation of the two bodies had gone through in absolute harmony. He paid a tribute to Messrs. Pritchard and Hulbert, the two Secretaries.

Mr. F. L. G. Bertram, Deputy Director of Civil Aviation, honouring the inventors of safety devices, quoted Mr. Hinkler's telegram from Poland saying that he and Mr. McIntosh had flown entirely by their Reid indicator. Mr. Bramson's invention was also very valuable. Safety first appealed to the Public. The Chairman of Imperial Airways Ltd. had announced that they had carried 52,000 passengers and flown two-and-a-half million miles since they had had a serious accident.

He said that Commercial Aviation could not depend on always having a subsidy. We were often reproached with our small mileage compared with French and German lines. But the line which was nearest to working on a commercial basis actually showed the most progress. And on this basis every ton-mile travelled cost us half the French cost and a quarter of the German cost in subsidy.

As to private flying, he said that there were now thirteen subsidised Flying Clubs in existence and they had produced 196 new licensed pilots since Jan. 1. [*For Mr. Bertram's information,*—In 1912 the Royal Aero Club granted 214 certificates, and in 1913 it granted 337. There were no subsidised clubs. Machines were more difficult to fly. The tests were very little easier. And if a man spent less than £150 on getting his certificate he did well.—C. G. G.]

Privately owned machines had increased from twenty to sixty-nine.

He said that London would soon have a worthy Air Port at Croydon and that we must work for a consistent and steady progress. He wondered what Civil Aviation would be doing a hundred years hence.—("Asking for a subsidy," interjected Mr. Handley Page.)

Lord Thomson referred to Sir Charles Wakefield as the Archbishop presiding over this ceremony rather than the Patron Saint of Aviation, seeing that saints were generally dead. He hoped to see Sir Charles an active force in aviation for many years.

Sir Charles replying said that those who had caused the amalgamation had builded better than they knew.

After which Mr. Hinkler was haled to the top table and persuaded to say a few words about his fog flying adventures, which he described very simply in the phrase "We went where we went,"—neither he nor Mr. McIntosh having the slightest idea where "where" was. Afterwards, working it out on time and direction, they came to the conclusion they must have got to Astrakhan at the top of the Caspian, but for all they knew they were heading straight for the high mountains of the Caucasus, which was why they turned back. If they had gone straight on from Astrakhan they would have had a clear run through the rest of the way. And Mr. Hinkler told one afterwards that the speed of the Fokker Jupiter worked out quite steadily at about 100 miles an hour.

Altogether a jolly evening, for which Sir Charles deserves thanks.—C. G. G.

THE FLIGHT TOWARDS AUSTRALIA.

Mr. W. N. Lancaster and Mrs. Keith Miller on the Avro Avian "Red Rose" arrived at Karachi at 6.45 p.m. on Sunday, Dec. 4, from Bandar Abbas.

The last previous news of them recorded that they were at Bushire awaiting new magnetos, and the date of their departure from that place to Bandar Abbas is not known.

SIR ALAN COBHAM'S AFRICAN FLIGHT.

On Tuesday, Nov. 29, heavy seas at Calafrana, Malta, damaged the remaining wing-tip float of the Short Singapore, and it was necessary to beach the machine on the station slipway. This was difficult, boats could hardly get alongside. With much assistance from R.A.F. personnel the job was done.

Information has now been received that the damage caused by the heavy seas is considerable and the flight will be delayed until mid-January.

That worse damage was not done speaks volumes for the Singapore construction. Apparently the waves swept right over the sea wall at Calafrana and a wing-tip float was damaged. Those who saw the incident say that only the wonderful sea-worthiness of the boat prevented her being turned right over. She was then pulled up onto the slipway, but so heavy were the seas that even here she was lifted right up by the waves and dropped onto the port wing, which was smashed.

The hull and the rest of the structure were not damaged in any way.

A new port wing is now being built at Rochester and Short Bros. hope to dispatch this to Malta soon after Christmas, and it ought to be in position on the machine by the second or third week in January.

So once more Sir Alan encounters bad luck in the early stages of his flight.

Readers of The Aeroplane will remember that on the Cape Town Flight and on the Australian Flight he met the worst of bad luck early in his journeys. Each flight however he brought to a triumphant conclusion, and there is little doubt that the circum-African flight will be successful finally.

The accompanying photograph, received just as The Aeroplane was going to press, gives a very good idea of the machine's dangerous position. As there was no beach-trolley big enough she had to be hauled up on her own hull.

THE FLIGHT TO KENYA AND THE CAPE.

Lord Carbery, who is attempting to fly to Kenya and on to Cape Town, reached Heliopolis, Cairo, on the afternoon of Saturday, Dec. 3, on his Fokker Universal monoplane (Wright Whirlwind engine).

INDIAN MAIL BY FRENCH AIRCRAFT.

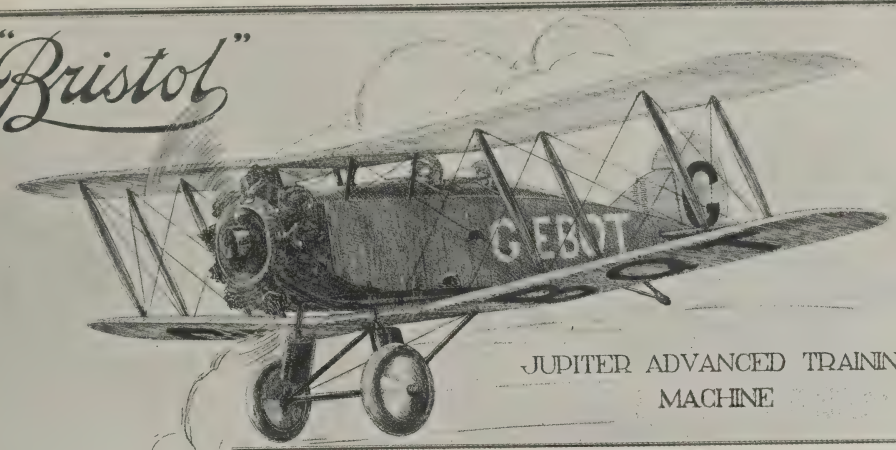
The French Chamber is to be asked to sanction credits totalling 121,550,000 francs (about £980,000) for the support of civil aviation during 1928. This is 42,900,000 francs (about £340,000) more than the credit voted in 1927.

The greater part of this increase is to be devoted to the development of the proposed Latécoère service to South America and of a new service to Syria. The line to Syria is expected to carry the bulk of the mail to India, which French authorities believe will amount to nearly 1,000 tons per annum.



IN EXTREMIS.—The gallant attempt by R.A.F. personnel to save Sir Alan Cobham's Short Singapore at Calafrana, Malta.

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THE TURN OF THE TIDE.

At the third ordinary general meeting of Imperial Airways Ltd., at the Hotel Cecil on Nov. 9, the Rt. Hon. Sir Eric Geddes, G.C.B., G.B.E., Chairman of the company, who presided, described the recent history of the company in optimistic terms.

The financial results of the third year of operations as shown in the accounts has already been recorded in this paper. The result was for the first time a net profit of a little more than £11,000.

Sir Eric announced that the trading account showed that a gross profit was now being made—that is, Imperial Airways now took more in fares, etc., than the cost of running their machines—and therefore they could, with their existing fleet, cater for still more traffic and a still greater annual mileage without depending on increased subsidies.

The total expenditure on maintenance during the year had been £57,800. This included three months' maintenance in the Middle East service and covered a greatly increased ton-mileage on the European routes. In view of these facts this showed a very satisfactory reduction in the rate of this cost. This improvement was attained not by any falling off in the standard of maintenance but mainly by better workshop management and more efficient plant.

During the year they had carried 5,000 more passengers, 75 tons more of goods and excess luggage, and 10 tons more mail than in the previous year. [Perhaps the Chairman might have been more positive in stating whether this increase was carried by I.A.L., or whether it included bookings by I.A.L. over allied lines such as *Luft Hansa*.—Ed.]

It had frequently been said in the past that the great majority of Imperial Airways passengers were American tourists. In the year 1926/27, 45 per cent. of their passengers were of British nationality, and no other nationality reached so high a figure.

The regularity for the year was better than for any previous year. 92 per cent. of flights were made to schedule in Europe, and 100 per cent. in the Middle East. This last figure had been maintained during the whole operations in the Middle East to date, and not only for the three months included in the year 1926/27.

The regularity on this route was possibly because the weather was so much more favourable to flying than in Europe, and also because they were able to organise and equip the route from the beginning in the light of their previous experience in Europe. Although no figure appeared in the balance sheet for goodwill, the directors felt that this result showed that their experience had a real goodwill value.

The Middle East service still ran only to Basra. The agreement with H.M. Government provided for its extension to Karachi and this agreement was signed by Imperial Airways on the assurance by the Government that all the necessary political arrangements for this extension had been completed. At the last moment Persia had refused to ratify the agreement and they could not run past Basra.

The responsibility for this failure did not lie with Imperial Airways and this had been admitted by the British Government. Arrangements have been made for the payment of the full subsidy for the whole route in return for a service weekly instead of fortnightly on the short route.

This was a satisfactory temporary palliative, but the hold-up was a brake on the progress of Imperial Airways. Progress was being made with the arrangements for diverting the route from Basra to Karachi to the other side of the Persian Gulf, and the Air Ministry could be relied on to meet the situation in a fair and reasonable manner.

Traffic in the Middle East route had increased steadily from its opening. At present one-third the total mail between England and Iraq and over half the incoming mail from Iraq was carried by the service.

The directors regard the change from a loss to a net profit during the year as a turning point in the progress of commercial aviation. Provided the Government would adopt a courageous policy in assisting at the establishment of Imperial air-routes and would stand loyally by Imperial Airways they might shortly look to the company becoming a profitable investment, and even a concern whose expenditure and profits was covered entirely by payments for services rendered.

Imperial Airways had the knowledge and experience to run these Imperial routes. But a bolder policy on the part of the Government was necessary or they would be left behind by Continental competitors whose Governments gave them much greater financial support.

The motion that the report and accounts be adopted, moved by Sir Eric Geddes and seconded by Sir Herbert Hambling, Bt., was carried unanimously.

Sir Edward Manville then proposed "That this meeting considers the present Government subsidy is inadequate for the services rendered and that it should be substantially increased." Mr. F. Handley Page seconded, and the proposal was carried unanimously.

Mr. H. Scott Paine, the retiring director, was re-elected.

COL. HENDERSON'S VISIT.

An unusually interesting but all too brief visitor to London during the past month has been Col. Paul Henderson, General Manager of the National Air Transport Company, which now runs the New York—Chicago and Chicago—Dallas air line. Col. Henderson and his friend, Mr. Lew Holland, of Kansas City, who have been making a rapid journey to Europe on other than aviation business, were entertained to lunch on Nov. 17 by Mr. William Newton, the Proprietor of *Airways*, to meet a few friends particularly concerned with Civil Aviation.

Col. Henderson has a particular place in History as that Assistant Postmaster-General in the United States who organised the New York—San Francisco air mail, which will always be known as the first and most successful air line in History. Col. Henderson's belief that the success of an air line depends on its ground organisation is still unshaken as a result of five years' experience, and one supports him in this belief against those who believe that the success of of an air line depends on infallible engines in aircraft.

Col. Henderson said that the various regular air lines in the United States are now flying 17,000 miles a day with a very high percentage of reliability. And he prophesied that within a year or two some 35,000 miles would be covered—by night and day flying—every 24 hours.

On the subject of lighting air-ways he said that his ground organisation had tried out Neon lights in fog against ordinary electric lights with the glasses coloured to the same tinge as the Neon light, and that absolutely no difference in the fog-penetrating qualities of the two could be discovered. This may be of interest to air line proprietors who are thinking of laying down vast sums in Neon lighting.

Apparently it is the colour which penetrates fog, and there is no particular virtue in the Neon ray as such. As the Neon light uses more current than does the ordinary electric lamp for the same amount of light (even with red glass), the Neon light seems, like its literary namesake, to cause an amount of talk which its work does not merit.

Those who had the pleasure of meeting Col. Henderson were glad to see him so well and cheerful in spite of his years of strenuous labour in the cause of Civil Aviation. There is certainly nobody on either side of the Atlantic who has greater knowledge or sounder ideas on the subject, and N.A.T. is to be congratulated on possessing such a valuable asset.—C. G. G.

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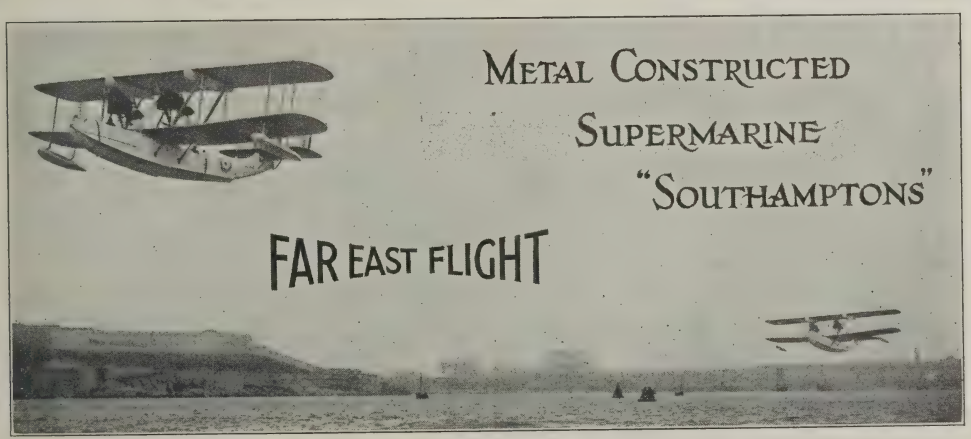
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Extract from "The Times," 19-11-27.

The Far East Flight of four metal-hul'ed Supermarine "Southampton" flying boats, each fitted with two Napier Lion engines, has now completed one quarter of its itinerary of 25,000 miles. Such an ambitious journey has never been attempted by the service aircraft of any nation, and the Flight has kept regularly to its schedule.

Flying in formation the boats crossed the Syrian desert, using the Euphrates near Baghdad as one of their halts.

Group Captain H. M. Cave-Browne-Cave said that the flight thus far had been very satisfying. They had had no trouble of any kind.

TOTAL DISTANCE COVERED TO KARACHI 5,000 MILES. TOTAL MACHINE MILES TO DATE, 20,000 MILES.

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THE FLYING CLUBS.

The Associated Clubs' General Council.

The first Meeting of the General Council was held at the Royal Aero Club, 3, Clifford Street, London, W.1, on Nov. 29. Brig.-General Lord Thomson, P.C., C.B.E., D.S.O., the Chairman of the Royal Aero Club, was in the Chair, and the following Delegates were present:—

Royal Aero Club:—Lt.-Col. M. O. Darby, O.B.E., Lt.-Col. Sir Francis K. McClean, A.F.C., Lt.-Col. M. O'Gorman, C.B., Mr. F. Handley Page, C.B.E.

Bristol and Wessex Aeroplane Club:—Mr. C. F. Uwins. *Felixstowe Light Aeroplane Club*:—Flt. Lt. N. Comper. *Halton Aero Club*:—Flg. Off. W. F. Shaylor. *Hampshire Aeroplane Club*:—Mr. R. J. Parrott, Capt. Harrington. *Lancashire Aero Club*:—Mr. J. F. Leeming, Mr. A. R. Goodfellow. *London Aeroplane Club*:—Major K. M. Beaumont, D.S.O., The Hon. Lady Bailey. *Midland Aero Club*:—Major G. Dennison. *Newcastle-upon-Tyne Aero Club*:—Colonel Sir Joseph Reed, Mr. B. M. Dodds. *Norfolk and Norwich Aero Club*:—Mr. G. F. Lines. *Nottingham Aero Club*:—Mr. C. R. Sands. *Royal Aircraft Establishment Aero Club*:—Mr. P. N. G. Peters. *Suffolk Aeroplane Club*:—Dr. Sleigh. *Yorkshire Aeroplane Club*:—Mr. N. S. Norway.

The principal question for discussion was the Racing Programme for 1928. The opinion was generally expressed that the Clubs found great difficulty in supporting the large number of Meetings held in 1927, and it was thought desirable that for 1928 the Programme of Inter-Club Meetings should be considerably reduced. In order to put this into effect it was decided to allocate one Meeting to definite areas, as follows:—

Northern Area.—Lancashire Club, Yorkshire Club, Newcastle-upon-Tyne Club.

Midland Area.—Midland Club, Nottingham Club, Suffolk Club, Norfolk and Norwich Club.

Southern Area.—Hampshire Aeroplane Club.

Western Area.—Bristol and Wessex Aeroplane Club.

London Area.—The Royal Aero Club, The London Aeroplane Club.

A Sub-Committee of Representatives of the following Clubs were appointed to make the necessary arrangements:—Lancashire, Midland, Hampshire, Bristol and Wessex, London.

Col. Sir Joseph Reed, President of the Newcastle-upon-Tyne Aero Club was unanimously appointed Vice-Chairman of the General Council.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, W. 1.]

Report for week ending Dec. 4.

Flying Time 7 hr. 20 min. *Instruction* 4 hr. 10 min. *Soloists* 3 hr. 10 min. *Instruction.—With Mr. F. G. M. Sparks*—J. A. Simpson, J. J. Hofer, H. M. Samuelson, Capt. H. Square, J. Barros. *With Mr. S. L. F. St. Barbe*—Miss Wilson, C. Dugdale. *Soloists.*—J. A. Simpson, J. J. Hofer, H. M. Samuelson, D. H. P. Esler, E. C. T. Edwards, Capt. H. Square, H. Solomon, O. J. Tapper.

Rain and fog prevented flying except for a few hours on Thursday and Friday.

Flying for the month of November.—Dual Instruction, 60 flights, 27 hr. 25 min. Soloists, 69 flights, 28 hr. 15 min. Passengers, 17 flights, 4 hr. 20 min. Tests 44 flights, 7 hr. 20 min. Total, 67 hr. 20 min.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Dec. 4.

Flying Time 13 hr. 20 min. *Instruction* 8 hr. 45 min. *Soloists* 20 min. *"A" Pilots* 3 hr. 35 min. *Tests* 25 min. *Passengers* 15 min. *Instruction.—With Mr. Parkinson*—Miss Rambaut, Dr. Alderson, Messrs. Horn, V. Heaton, Griffiths, R. J. Dickinson, De Pledge, P. L. Lawson, Waugh. *Soloists.*—Mr. De Pledge. *"A" Pilots.*—Mrs. Heslop, Miss Leathart, Messrs. R. N. Thompson, C. Thompson, Wilson, Turnbull. *Passengers.—With Mr. C. Thompson*—Mrs. Heslop.

Fog has been almost continuous throughout the week, the flying having all been done during slight improvements on three days.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Dec. 3.

Flying Time 9 hr. 45 min. *Instruction* 6 hr. 25 min. *Soloists* 3 hr. 5 min. *Passengers* 15 min. *Instruction.—With Mr. Beck*—Miss Watson, Dr. Ling, Messrs. Ward, A. Crowther, Ellison, Jackson, Brown, G. Thomson, Hepworth. *Solo Instruction.*—A. Crowther, Ellison, Brown. *"A" Pilots.*—M. B. Lax, Lister.

Notes.—Surrounded by gloom again this week! Our only ray of sunshine has been the visit of Charles Blackburn piloted by Mr. A. M. Blake on the demonstration Bluebird, on Friday. Mr. Blake and the Bluebird having been swallowed up by this gloom, are still here, and hope to get a peep at the aerodrome boundary before Christmas.

Our Tommy Brown and another member, who refused to disclose his identity for publication, wafted themselves into the air for the first time on their own. Both disported themselves playfully and managed to keep the aerodrome in view.

The Club will be closing down for the Christmas Holidays from Dec. 23 to 28.

The Club House Scheme.—The Yorkshire Club is circularising its members in an effort to find funds to furnish a Club House at the Aerodrome at Sherburn. The Burnett firm, who own the big sheds at Sherburn, have been approached with the idea of letting the Club use the building which adjoins the aeroplane shed and including that building in the rent which is paid for the shed, and seems likely to be generous. The Club has acquired approximately £300 for the Club House fund, and any furniture which is acquired by that fund will, of course, be available should the Club ultimately build a Club House on a bigger scale. Sir E. A. Brotherton, Bart., President of the Club, has himself sent a cheque for £100 towards the fund, and the Committee hope that all members will subscribe.

The Hampshire Aeroplane Club.

[Sec.: H. J. Harrington, Hamble Aerodrome, Southampton.]

Report for week ending Dec. 4.

Flying Time 6 hr. 50 min. *Instruction* 4 hr. 30 min. *Soloists* 1 hr. 50 min. *Passengers* 10 min. *Tests* 20 min. *Instruction.—With Flt. Lt. Thompson*—Capt. Kirby, Lieut. Mandeville, R.N., Messrs. Lowe-Wylde, Evans, Fawkes, Hall and Courtney. *Soloists (licensed).*—Lt. Graham, Lt. Oliver, and Mr. Falconer. *(Unlicensed)*—Capt. Kirby, Mr. Fawkes, and Mr. Evans. *Passengers.*—Mr. Storey with Flt. Lt. Thomson, and Mr. Oliver, Senior, with Lt. Oliver.

Notes.—No flying was possible on Tuesday, Wednesday or Saturday, owing to mist, and on the remaining day a thick haze made flying difficult.

We sent off more soloists during this week; Capt. Kirby, M.M., R.N.R., and Mr. Evans, both up to usual form.

There is no news to report this week, but we would like to congratulate Mr. Falconer on his stout effort in bringing G-EBOH back into the aerodrome, after his engine had developed piston trouble on Sunday. Mr. Falconer flew his first solo only fairly recently, but in spite of the disconcerting circumstances on Sunday, he made an excellent approach and landing.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Dec. 4.

Flying Time 6 hr. 30 min. *Instruction.—With Mr. Lines*—Messrs. G. F. Meagre, R. F. Potter, G. H. Barber, J. Barratt, G. F. Surtees, N. Brest. *Soloists.*—Messrs. W. P. Cubitt, W. A. Ramsday, F. Gough. *Passenger.*—E. Varden-Smith.

Notes.—All flying this week has been done in very murky weather and one admires the little band who so constantly support the Club actively.

The draw for the Moth is anxiously awaited; of course it must already be painted in our colour scheme, ready for collection, etc.

The purchase of patented petrol is a great innovation. "It is guaranteed not to leak."

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Nov. 27.

Flying Time 3 hr. 50 min. *Instruction.—With Mr. Lowdell*—Miss Edwards, Dr. Sleigh, F. Jolly, G. Hutley, S. Schofield, T. Marriage, K. Peck. *Passenger.—With Mr. Lowdell*—F. Verney. *With Mr. Prentice*—S. Schofield. *Soloists.*—Dr. Jas Sleigh, S. Schofield, C. N. Prentice.

Notes.—Mr. Charles Blackburn and Mr. Blake on their Aerial Tour called at the aerodrome on Wednesday last flying Bluebird G-EBTA. The engine of this machine is fitted with an exhaust manifold and pipes, which is a marked improvement. One had an opportunity of flying the machine, also of sampling the excellent Yorkshire beer, of which there was an ample supply in the locker.

We are now launching a Public Appeal through the local Press for further funds to enable us to secure a second machine and hangar. Lady Bailey and Sir Courtney Warner (Lord Lieutenant of Suffolk) have very sportingly headed the list with £100 each.

Flying has been practically washed out this week.

Report for week ending Dec. 4.

Flying Time 4 hr. 50 min. *Instruction.—With Mr. Lowdell*—Miss Edwards, Dr. Jas. Sleigh, S. Schofield, K. Peck, G. Hutley, N. Creasy, H. Billinton. *Soloists.*—Dr. Jas. Sleigh, S. Schofield, C. N. Prentice. *Passenger.—With Mr. Prentice*—Miss Elias.

The Bristol and Wessex Aeroplane Club Ltd.

[Sec.: Col. G. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Dec. 3.

Flying Time 8 hr. 40 min. *Instruction* 4 hr. *Soloists* 4 hr. *Passengers* 40 min. *Instruction.—With Mr. E. B. W. Bartlett*—Messrs. Arnold, T. H. Clarke, Roberts, R. A. Hall, Hon. B. L. Bathurst. *Soloists under Instruction.*—Messrs. Hon. H. C. H. Bathurst, R. A. Hall, C. H. Brewer, S. K. Jopp, Roberts. *"A" Pilots.*—Capt. Barnwell. *Passengers.—With Mr. E. B. W. Bartlett*—Mr. G. K. Hampshire, Mr. Dougall. *With Mr. Tapp*—Mr. Roe.

The Club was visited by Major Dougall, representative of *The Daily Express*, who was given a view of Bristol from the air.

ENGINE HANDBOOKS.

["Air Publication, 1278." Jupiter Series VI Aero-Engine. Published by the Air Ministry, September, 1927. (H.M. Stationery Office. 2s. 6d. net. 166 pp. 5½ inches × 8½ inches. 73 figures.]

["Air Publication, 1287." Lynx IV Aero-Engine. Published by the Air Ministry, September, 1927. (H.M. Stationery Office. 2s. 6d. net. 133 pp. 5½ inches × 8½ inches. 51 figures.]

Supplied by The Aeroplane Book Dept., 14, Bream's Buildings, E.C.4.

These two handbooks, published by the Air Ministry, "for the guidance of all concerned," contain all the information which can be imparted by the written word as to the care and maintenance of the Bristol Jupiter and the Armstrong-Siddeley Lynx IV engines.

In common with other official handbooks prepared by the Air Ministry these contain a vast amount of information of interest to others than those concerned with the use of the engines themselves. They are useful to designers of both aircraft and engines.

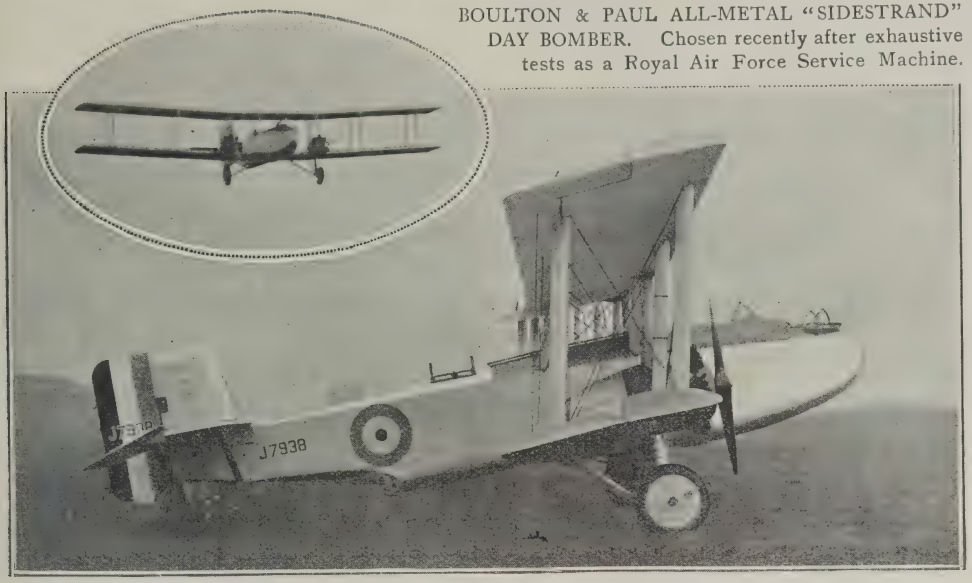
They contain a full description of each engine, illustrated with many photographs, perspective sketches and diagrams showing clearly all the more important and characteristic details of construction.

They give full instructions for dismantling and re-erecting the engines, fitting new components, and so forth, with information as to the special tools and equipment needed.

A section on starting and running of the engines gives information which should be of value not only to mechanics and pilots but also to those responsible for the installation of engines.

No publishing firm could possibly sell these books at 2s. 6d. each. To all students of the aero-engine, whether they may have to handle these engines or not, they can be recommended as very good value for money.

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 1; Tuesday, 4; Wednesday, 13; Thursday, 15; Friday, 14; Saturday, 8; Sunday, 0.

IMPERIAL AIRWAYS LTD. :
London — Paris — Zurich; London — Ostend — Brussels — Cologne : Machines 24, passengers 68, freight 7 tons.

AIR UNION :
Paris—London : Machines 10, passengers 27, freight 13½ tons.

K.L.M. :
Amsterdam—Rotterdam—London : Machines 8, passengers 14, freight 3 tons.

SABENA :
Brussels—London : Machines 9, passengers 11.

DEUTSCHE LUFTHANSA AG. :
Brussels—London : Machines 3, passengers 1.

PRIVATE :
Machines 1, passengers 0.

Total number of trips by British Machines, 25, carrying 68 passengers. Foreign Machines 30, carrying 53 passengers.

COMPARATIVE FIGURES.

Week ending Dec. 4 :
Machines, 55; Passengers, 121; Crews, 94; Total personnel, 215.
Corresponding week, 1926 :
Machines, 69; Passengers, 140; Crews, 87; Total personnel, 227.
Corresponding week, 1925 :
Machines, 42; Passengers, 91; Crews, 53; Total personnel, 144.
Corresponding week, 1924 :
Machines, 69; Passengers, 168; Crews, 85; Total personnel, 253.
Corresponding week, 1923 :
Machines, 19; Passengers, 38; Crews, 27; Total personnel, 65.
Corresponding week, 1922 :
Machines, 60; Passengers, 130; Crews, 116; Total personnel, 246.
Corresponding week, 1921 :
Machines, 29; Passengers, 36; Crews, 49; Total personnel, 85.
Corresponding week, 1920 :
Machines, 22; Passengers, 33; Crews, 28; Total personnel, 61.

Croydon Notes.

The section of Plough Lane which now bisects Croydon Aerodrome is to be closed on Friday next, Dec. 9, and at 3.30 p.m. of that same day, Sir Samuel Hoare, Under-Secretary of State for Air, will open the new road—Foresters Drive—which leads from Sandy Lane round the south-western boundary of the old aerodrome into the southern section of Plough Lane, and so to Purley.

The northern end of Plough Lane, as far as the level-crossing will remain open to give access to the houses on the western side, and for the time being to the existing aerodrome buildings. The section south of these buildings to the southern edge of the aerodrome will be filled level, and the hedges and ditches removed, so as to make the full East-West extent of the combined aerodrome usable at once.

According to reports in the Press the new buildings on the Eastern side of the aerodrome are to be in full use early in January so that the pulling down of the present buildings may then be started. There seems to be some doubt whether these hopes will be fulfilled.

The Department of Civil Aviation have it seems rather large ideas of the scale of rents which should be charged to the Air Line Companies for office accommodation, use of booking hall and passengers' waiting rooms, etc., and certain of the companies have so far declined to accept the terms offered to them.

In any case Imperial Airways can hardly remove all their workshop equipment across in the time suggested, and until they can do so they must continue to use a good deal of their present premises.

One of the advantages claimed for air travel is the saving in time and trouble at the air terminals in passing through Customs. This advantage does exist if one arrives at the regular terminal, but if one is forced to stop elsewhere Customs formalities under present arrangements may lead to serious and irritating delays.

If a machine bound for Croydon is forced to land before reaching that aerodrome, passengers must remain at the landing place until the Customs officer having authority in that particular district can come and pass their luggage. Freight may not be removed from the machine and forwarded by road and rail until it has passed this local official—who may be entirely unaccustomed to Air Navigation Regulations, and aircraft "shipping" documents, etc.

On one misty afternoon last week two incoming machines were forced down by fog a few miles apart in a very inaccessible part of Kent. The local Customs officers when found could deal with only one machine at a time, so the passengers and crew of one had to wait in patience while he attended the other.

What the end of the affair was is not at present known, but the passengers and crew of the second machine which landed about 3 p.m. were still awaiting the arrival of the Customs officers at 5 p.m. It was then quite dark, and distinctly foggy, and their only means of getting to civilisation was by car which had been sent from Croydon. At the very best they could not reach London before 8 p.m.

A Customs officer used to aircraft work could have reached the spot by car very much earlier than the local officer actually arrived. Unfortunately this course is forbidden by the Customs regulations. It looks like a case for amending the regulations.—W. H. S.

Imperial Airways Christmas Arrangements.

Imperial Airways Ltd. announce that none of their services will run on Christmas Day, Dec. 25. On Monday and Tuesday, Dec. 26 and 27, only the mid-day "Silver Wing" services will run.

The full service will run on all routes on Christmas Eve, Saturday, Dec. 24, and may be augmented if that be found necessary.

AIR LINE REPRESENTATION.

M. P. E. Grosfils, the Manager for Great Britain for the Air Union, the leading French air line combine, which operates between London and Paris, notifies THE AEROPLANE that his office at 32, Haymarket, S.W.1, also represents in Great Britain the Société Anonyme Belge d'Entreprises de Navigation Aérienne, commonly known as the S.A.B.E.N.A., which operates between Brussels and London. In addition M. Grosfils is the British representative for the A.B. Aero Transport, the Swedish Government line, commonly known as the A.B.A. This line only operates in the Summer to London.

M. Grosfils is also the British representative for the Compagnie Internationale de Navigation Aérienne, commonly known as the C.I.D.N.A., which runs the line from Paris to Constantinople by way of Vienna, Budapest and Bucharest. In this way passengers can book by the Air Union to Paris and thence to Constantinople on the C.I.D.N.A.

Early in the New Year M. Grosfils will be paying a visit to the United States and Canada to visit those firms in North America with which he is already in touch as booking agents for tourists coming over to this side of the Atlantic. He hopes to make new connections with firms in the chief cities of the Eastern States with a view to increasing the air-tourist business, and thus helping to make the American peoples air-minded. One bespeaks for him a kindly welcome from any readers of THE AEROPLANE in the United States with whom he may come in touch.—C. G. G.

A PIONEER FLIES.

Mr. Eustace Short of the famous firm of Short Bros. has recently taken up active flying, although he is now 58 years old. Under the instruction of Mr. J. Lankester Parker he has been having dual instruction on the Short Mussel. (Cirrus) and also on the Singapore (two Condors).

Recently he has been flying solo on the Mussel, and a day or so ago he took it to 8,000 ft. and made a perfect alighting on the Medway without using his engine. Probably by the time these notes appear he will have "taken his ticket" (as they used to say in the old days) for he was only waiting favourable weather to complete his tests.—G. D.

EXAMINATION FOR AIR NAVIGATORS.

In the notice published in this paper on Nov. 30, concerning examinations for air navigators, the second paragraph stated that arrangements could be made for the Air Ministry to examine candidates in special cases on Dec. 21.

This paragraph was inserted by a misunderstanding. It refers to the medical examination before a licence is issued and not to the examination in navigation itself. Examinations in navigation will be held only on Dec. 19 and 20 as stated in the first paragraph of the original notice.

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THE PROGRESS OF THE INFLEXIBLE.

So far the Beardmore Inflexible, the big all-metal monoplane with Rolls-Royce Condors has not yet taken the air. It has been at Martlesham Heath fully erected for some weeks now, but has not actually flown.

One gathers that an attempt to fly it has actually been made but a report says that, being so massive, its wheels broke through the tarmac and became immobile. Presumably it is the state of the ground caused by the appalling weather which is delaying operations and therefore it seems unlikely that a flight will be attempted before a spell of dry weather and/or frost.—G. D.

FLYING CLOTHING.

In the last issue of The Aeroplane one stated that Wainwright's, of 300, Euston Road, the flying clothing specialists, was opposite Goodge Street tube station. The premises are, as a matter of fact, opposite Warren Street station. Goodge Street station is a few hundred yards down the street.

Wainwright's have a wonderful selection of all the things that the budding aviator, or the enthusiastic passenger (and the all-weather motorist) can want. So the store is well worth a visit. Price lists can be had, post free, on mentioning The Aeroplane.

PERSONAL NOTICES.

Deaths.

LACY.—On Dec. 3, at Enfield, as the result of a flying accident, AC.2. Henry Arthur Lacy, R.A.F.

WHELAN.—On Dec. 3, at Enfield, as the result of a flying accident, Robert Darley Whelan, Flg. Off., No. 12 (Bombing) Sqdn., R.A.F.

Mr. Whelan was one of the first entry of Cadets at the R.A.F. Cadet College, Cranwell, and passed out of the College in December, 1921. He was posted to No. 30 (Bombing) Sqdn., 'Iraq, in March, 1922. He was promoted to the rank of Flying Officer in June, 1923, and posted to No. 12 (Bombing) Sqdn., Andover, in October, 1924, for air pilotage duties.

Forthcoming Marriage.

CRITCHLEY—FOSTER.—The engagement is announced between Brigadier-General A. C. Critchley, C.M.G., D.S.O., son of Major O. A. Critchley, and Joan, younger daughter of Mrs. R. Foster, 44, Mount Street, W.1.

Births.

DE ST. LEGER.—On Nov. 27, to Muriel (Muggins), the wife of Flt. Lt. R. T. M. de St. Leger, R.A.F.—a daughter.

MUSSON.—On Nov. 27, at St. Clement, Rochester, to Margaret (*née* Brice), wife of Francis W. Musson, A.F.C.—a daughter.



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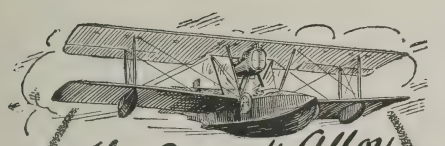
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TO ADVERTISERS PERSONALLY.—The Aircraft and General Fine Art Co., of East Grinstead, who have during the last week or two been running a small advertisement in these columns, write :—

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All seeking Aviation Employees or Employment should communicate with Capt. F. Warren-Merriam, A.F.C., A.F.R.Ae.S., agent for Air Lines, British Aviation Insurance Group, etc.; his Employment Bureau is authorised and licensed by the L.C.C. Address, 64, Victoria Street, Telephone Victoria 8428.

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The Owners of British Patent No. 226191, "Staying Floats on Aircraft," desire to grant Licences or to make other arrangements for working the invention. Reasonable terms can be arranged on application to Wheatley and Mackenzie, Patent Agents, 40, Chancery Lane, London, W.C.2.

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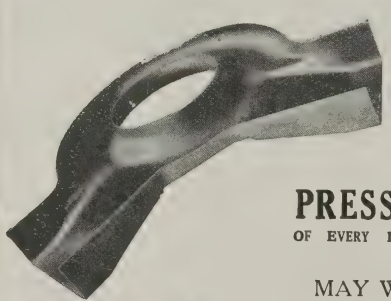
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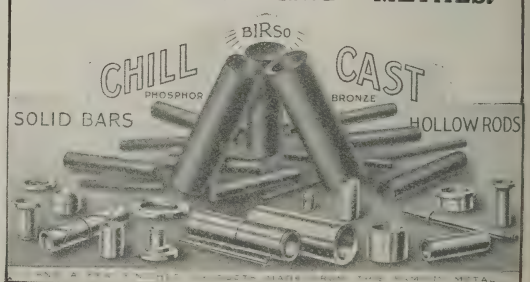
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THE AEROPLANE

Incorporating

Aeronautical Engineering

VOL. XXXIII. No. 24.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON AIR POWER.

In these days when wars and rumours of wars pervade the Press, and when agitations, sensible and nonsensical, are constantly being sprung on this country in connection with air affairs, there is need for sound doctrine in relation to Air Power. Therefore the particular attention of readers of this paper is directed to the précis, which appears hereafter, of the lecture on Air Power given by Group Capt. W. F. MacNeece Foster, C.B.E., D.S.O., D.F.C., R.A.F., before the Royal United Service Institution on Dec. 7.

Group Capt. MacNeece Foster is one of the old hands of the R.F.C. He was a regular soldier before the War and did good service during the War, as is shown by his decorations. Moreover his knowledge of air work is unusually comprehensive. Not only has he had to do with aeroplanes, but he was one of those who was first concerned with the introduction of kite-balloons. One has a lively recollection of his work with these ungainly craft at Roehampton in the days of Lieut.-Colonel E. M. Maitland, who died after the War, as an Air Commodore, in the wreck of R.38.

Group Capt. MacNeece Foster served in France during the War and since the War in India and in Iraq, where as a Staff Officer he had unusual opportunities of increasing the knowledge which he had gained during the War. Also he is the British Air Representative to the League of Nations, so that he has unusual opportunities of judging what other Nations are doing and thinking. Therefore his opinions on air power are better worth consideration than are those of most men.

To those who are seriously concerned with their profession one strongly recommends that as soon as it is published they lay hands somehow on the *Journal of the Royal United Service Institution* and read Group Capt. MacNeece Foster's lecture in full. In the meantime a general idea of his opinions may be gathered from the précis in this paper. Readers will notice that he is careful to differentiate between his own views and the official views of the Air Staff while at the same time stating clearly that the views which he has expressed are not antagonistic to those of the Air Staff.

Certain points in the lecture deserve special consideration by those who, as Staff Officers in embryo, have been taught that to pass Staff College examinations an officer should read little and think much—a very sound doctrine.

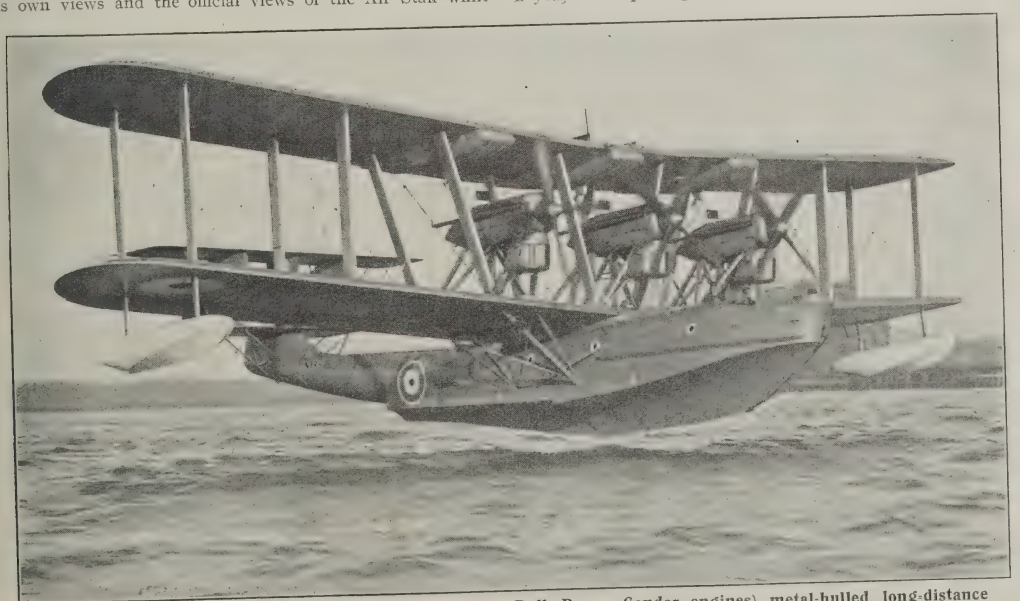
Mass Production.

One most important problem is that of reserve matériel. We cannot keep a huge stock of reserve aeroplanes and engines. Types change quickly, and machines built to-day are out of date twelve months hence. Civil aircraft, if designed for their own job, can be of little use in a war against an enemy equipped with real fighting machines. What then is the solution?

The only thing to do is to organise in time of peace for immediate mass-production on the outbreak of war. When a new type of war machine, or aero-engines, is approved not only should arrangements be made for the quick reproduction of drawings of that machine so that it can be copied by firms outside the Aircraft Industry, but drawings should also be provided of the tools, jigs, templates and gauges by which the parts of that machine, or engine, are produced. Furthermore, specific firms should be selected for the production first of all of the tools and then of the parts of the machine.

In the United States practically every manufacturing firm is ear-marked by the Government for the production of some specific piece of war material. It may be a part of a gun for the Navy, it may be a part of an aeroplane for the Air Corps, it may be a part of a rifle for the Army, it may be parts of a gas mask or a waggon wheel. But every firm which can make anything knows what its job is going to be immediately on the outbreak of war.

Not only does each firm know what its job is going to be but it has the drawings for that part in its safe. And once a year an inspecting officer from the Ordnance Department



AIR POWER.—The Blackburn Iris II (three 650 h.p. Rolls-Royce Condor engines) metal-hulled long-distance reconnaissance flying-boat about to alight. It was in this machine that Sir Samuel Hoare flew to Copenhagen and back during the past Summer.

of whichever service is concerned visits that firm and watches it turn out specimens of the part which it would produce in time of war. That is the way to organise for war in time of peace.

One believes that our War Office, the most far-seeing organisation in the World, has a somewhat similar organisation on a small scale. That is to say, certain civil manufacturing firms are definitely booked for the supply of certain material for the Army.

Possibly the Department of Supply and Research at the Air Ministry may have made similar arrangements on behalf of the Air Force. But if such a thing has been done one has never come across a firm which had been instructed to that effect. Nor has one heard in the ordinary way of gossip from any aircraft firm that any outside engineering firm has been detailed to co-operate with it, either as sub-contractors or as copyists working under the direction of that firm, as would obviously be necessary.

Only by some such arrangement as that can we ever hope to get mass-production in case of war. Existing aircraft factories could increase their output up to a point. But when they were faced with genuine mass-production, with inexperienced hands and a multiplied organisation, the factory would practically have to shut down for at least two months while it reorganised.

Civil Reserves.

Another point arises in connection with the indirect reserve from Civil Aviation. Although civil aircraft designed as such can be of very little use in time of war except as transport vehicles, and although against an ill-equipped enemy some of the big slow passenger-machines might be used as heavy bombers, though not as long-range bombers owing to their lack of speed, there is one particular class of civil aircraft which can be of direct value in time of war, assuming that we are fighting a maritime nation. That class is the big flying-boat.

We do not happen to have any long-range civil flying-boats at present. But that is merely because we have started developing our air lines in the wrong way. Obviously the big flying-boat will be one of our most important types in any serious Imperial airway of the future.

When we have such flying-boats they will be of immense use in time of war, to patrol transport routes, and to guard ports and coastal wireless stations and cable stations.

We must remember that during the War 1914-18 any kind of air escort was an absolute assurance against submarine attack. When the Navy was losing ships out of every convoy which it took along the Mediterranean with purely naval escort those convoys in charge of the Royal Naval Air Service not only never lost a ship but were never even attacked.

We may assume that in any war in the Pacific or Mediterranean or Black Sea our shipping will only be in danger from submarines and not from any surface ships. Consequently when we develop our flying-boats, as they should have been developed long ago, we shall have a really useful reserve in time of war.

Home Defence.

Another subject about which the would-be staff officer would do well to think is that of the air defence of Great Britain. What Group Capt. MacNeece Foster calls "The Heart of the Empire" obviously cannot be defended by fighting machines. The Air Exercises last July went far to prove the futility of that absurd class of vehicle which we call "interceptor fighters." And the London Air Defence Area proved definitely during 1917 and 1918 that gun and searchlight and listening-post defence is far more effective than fighting machines.

Because offence is the best form of defence we can best defend ourselves by developing high-speed long-range daylight bombers with an adequate escort of fighters. On has heard rumours already that the big night-bombers are likely to be abolished as a class. There is little use in having a night-bomber which can remain in the air for fifteen hours when you have not fifteen hours a night in which to operate. And there is still less use in a machine with a speed of seventy miles an hour with a twelve-hour range, when we can have much more easily and cheaply, machines which cover a considerably greater distance with a four or five-hour range.

Carriers.

Still another problem to be considered is whether aircraft carriers of the present type are of any real use. Purely as high-speed carriers, that is to say, very big very fast ships which can be stuffed full of aircraft and pushed off to Singapore or Australia or anywhere else at a great distance in a very short time, they will undoubtedly be very useful. But as floating aerodromes in fleet actions one has grave doubts about their usefulness.

They are far too vulnerable to submarine and supermarine attack. American opinion is distinctly in favour of having very much smaller carriers and a lot more of them.

The *Furious* and the *Glorious* and the *Courageous* are legacies from the late War. As Air Force pantechnicons they may be useful in the next war.

We shall also probably be able to use quite a number of large high-speed converted merchant ships for similar purposes. And as such they will be very much more useful than were the great ocean liners commandeered by the Navy in the War 1914-18 as auxiliary cruisers,—despite the gallant attempt of the *Aquitania* under a Royal Naval Captain to sink Ireland.

One merely offers these few suggestions to readers of Group Capt. MacNeece Foster's lecture as possibly opening fresh lines of thought which may be useful.—C. G. G.

The Lecture.

Introducing the Lecturer, Sir Samuel Hoare said that Group Captain MacNeece Foster was the British Air Staff Representative at the Disarmament Conference of the League of Nations. He went on to say that an attempt to meet adequately the local needs of Empire air defence would cripple the financial resources of the Empire. The only possible way to deal with the situation was therefore to secure intense mobility of air power. The increase in the mobility of the Air Arm had been demonstrated recently by the flight of the R.A.F. Far East flying-boat cruise over hundreds of miles of desert and his own flight to India, over hundreds of miles of sea in a land machine.

As a Nation we were peculiarly vulnerable to air attack and air attack was the most difficult attack to meet. With regard to progress in the R.A.F. we had more Units, better machines and a more intensive form of training than a few years ago. The new form of training had resulted in getting the machines into the air with less delay than previously.

Progress was necessarily slow so as not to involve the country in premature expense in view of the peaceful feeling in Europe after the conference at Locarno. The scale of expenditure on armaments would have to be lowered.

Definition.

Group Captain McNeece Foster said that recent great air accomplishments had acted as a stimulus to public imagination. Both the optimists and the pessimists had been astonished by such feats as the crossing of the Atlantic by Lindbergh and at the same time they had been shocked by the deaths in air accidents of such great pioneers as Sq. Ldr. Longton and Mr. Barnard. These examples had not been unproductive as they had served to wake up the national conscience.

The views expressed in this lecture must not be taken as the crystallised views of the Air Staff but at the same time he was not going to express any views repugnant to Air Staff doctrines.

All stages of military progress were in a stage of acute transition. A spirit of investigation was abroad. Air Power had exactly the same definition as Military Power in its essential objects. But in detail it consisted of (1) the number, *moral* and skill of pilots, (2) the quantity and quality of the aircraft, and (3) the ground organisation, which last included skilled mechanics without which the pilots and machines would be useless.

Air Power also needed reserves of personnel and material. No country could afford to maintain in peace the forces required in war and, with air power particularly, it was necessary to attain the highest possible power at the very beginning of a war. The short-service commission system was an endeavour to solve the problem of direct reserves of personnel. But the problem of direct reserves of material had not yet been solved although no subject received more careful attention from the Air Ministry. Obviously large reserves of aircraft would soon become obsolete.

Civil Aviation as a Reserve.

With regard to the indirect reserves these were essentially governed by the potential wealth and industry of the country,—a matter of primary importance but outside the scope of the present lecture. The other indirect reserve of Air Power was Civil Aviation.

There were two schools of Continental thought with regard to Civil Aviation and its adaptability for offensive purposes. There was what might be called the German-American school of thought which ruled that civil aviation was a great normal industry the success of which rested in its ability to pay its own way. Therefore every part of an aeroplane must be designed for economy and efficiency. The pilots were purely peaceful and as they got no drill or military training would be useless in war.

The other view on the Continent was that Civil Aviation was maintained in practically every country with the help of Government subsidies, and those who paid the piper would call the tune, with the inevitable result that aircraft built ostensibly for civil purposes, owing to these Government subsidies, would be so designed that they could take part in war.

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The British attitude was that both schools of thought were going too far and that vital details were ignored in both cases. Undoubtedly civil aviation was a most valuable form of reserve. A country which had an efficient form of Civil Aviation to draw from in time of emergency would undoubtedly be in a stronger position than a country which had none. The training of pilots and mechanics, with a certain amount of modification, could be made to serve both purposes. From an internal point of view civil aviation was an uphill business in this country and it would therefore be to our advantage to concentrate on Empire aviation.

THE APPLICATION OF AIR POWER.

Nothing would reconcile this country to spending enough money on Air Power to make it effective unless it could be proved that Air Power was absolutely vital. That it is desirable is not enough. The acid test of its relative value was to compare it with Sea Power.

Sea Power had proved itself to be vital. He did not venture to suggest that Air Power could take the place of Sea Power but together they were vital to our National security. It was arguable and conceivable that in a war with any great European Power that London would be destroyed in a few weeks. A distinguished member of the General Staff, not, it should be noted, a biassed, fanatical Air Staff Officer, had written some years ago and pictured London being gassed from the air and had described it as a "vast, raving bedlam with the Government at Westminster swept by an avalanche of terror." This officer had concluded his description with the words: "Thus may a war be won in 48 hours and the losses of the winner may actually be nil."

Air Force people themselves only wished that air war could be restricted to air combat, reconnaissance and the bombardment of defined military targets. But while they deplored the methods of war which might be used they could not afford to ignore them.

Two unfortunate facts existed. First that a nation fighting for its life might not be over particular in its methods. And secondly it took two to make a war.

A fact that was becoming increasingly clear was that the next European war would be a war against the civil population. Sir Henry Wilson had said that no convention or treaty would prevent an unscrupulous enemy from using poison gas. A German general officer had written:—

The war (of the future) will frequently have the appearance of destruction *en masse* of the entire civil population rather than a combat of armed man.

It was therefore obvious that we must consider the means, even though we disapproved of them, which adversaries might employ. The danger of restrictions of methods of warfare was so wide as to make restriction Utopian.

CONCLUSIONS.

The conclusions to be drawn seemed to be (1) That the Navy alone could not secure our safety and that the Navy and the Air Force were each vital to the security of the Country. (2) The passive defence of this country by air was at best only a palliative. The position of the offensive *vis-à-vis* the defensive was becoming stronger with the trend of air scientific development. (3) The scope of modern warfare would increase enormously and would include the civil population. (4) The large passenger-carrying aircraft might, particularly by night, be of the greatest value in bombing attacks. (5) Ethically and strategically it was desirable to limit the more barbarous phases of air warfare—on the other hand it was essential to be prepared.

Finally we must organise a force immediately available and sufficiently strong to deter any nation from the temptation of launching a blow at the heart of the Empire. This could be done by the expansion of our Royal Air Force aided by the development of Imperial civil aviation.

THE DISCUSSION.

COLONEL H. ROWAN-ROBINSON, C.M.G., D.S.O., G.S.O.1 Northern Command, Peshawar District, opening the discussion, said that he agreed with nearly all the Lecturer had said. But Group Captain MacNeece Foster had only drawn attention to two of our problems, namely home defence and sea communications. For home air defence the Air Force was the essential factor. For sea communications the Navy was vital. But he had omitted the question of the protection of our Frontiers. This was where the Army came in.

Frontiers were perhaps, not a vital problem but they were an important military factor. It was a case of Probability versus Danger. The Navy was always vital. The Army was vital in the most probable of our commitments. The Air Force was only vital for home defence.

GENERAL SIR GEORGE ASTON said that every defence problem should be tackled as a definite problem. Against whom were we defending ourselves? He understood that bombing operations against London were limited to the air radius of the attacking force. In 1924 he was told that this radius was 200 miles. This limited the potential enemy to aerodromes in Northern Europe or to aircraft carried on ships. He would like to ask the Air Staff for a definite statement as to the radius of bombing aeroplanes.

LIEUT.-COL. HOWARD said that Group Capt. MacNeece Foster had only himself to blame that so many soldiers were taking part in the discussion. He should not have ignored the Army in his lecture. He thought that the growth of Air Power was an argument in favour of mechanised armies. A mechanical Army could play the devil with enemy aerodromes.

GROUP CAPT. FOSTER said that he had deliberately steered clear of the Tank controversy. In reply to Col. Rowan-Robinson's question of Frontiers it was no use defending the Empire if the heart of the Empire was dead. In reply to General Aston the radius of action of bombing aeroplanes was a professional secret but he could safely say that the radius to-day was greater than the 200 miles of 1924 and in ten years' time it would certainly be over 350. Regarding the question "Against whom?" he would ask "Against whom are the Navy and the Army preparing?" The Air Force must be ready to defend the country against the nearest possible attacking power.

SIR SAMUEL HOARE in thanking the Lecturer said that these lectures and discussions at the Royal United Service Institution were proving of great value in helping the three Fighting Services to understand each other more and more.

THE SCHNEIDER TROPHY, 1928.

The Royal Aero Club has announced officially that the next contest for the Schneider Trophy will be held in September 1928, provided, of course, that other countries challenge us as the holders.

No decision has yet been reached as to the place for the contest. The entire Committee of the Royal Aero Club will visit Morecambe this next week-end to decide whether the water is suitable, especially at low tide, and whether accommodation can be provided for machines and personnel.

Blackpool, Liverpool, the Humber and the Wash have all been suggested as possible places and all will be duly visited. The whole Committee of the Club will have to visit each place because a decision of such importance cannot be made by two or three delegates. Thus the Committeemen of the R.Ae.C. will have quite a good deal to do for the Club.

One of the problems before the Committee is the fact that though three or four countries may challenge for the Trophy all sorts of things may go wrong and at the finish only one or two machines may actually turn up for the contest. Thus the Royal Aero Club cannot reasonably expect towns where no accommodation for seaplanes at present exists to put up sheds to house perhaps five teams of five machines each (three competitors and two spares) when only two machines may arrive instead of twenty-five.

Apparently, therefore, the only wise course will be ultimately to accept the Air Ministry's offer of accommodation at an existing seaplane station. Political, financial and other problems connected with the contest will be discussed in this paper next week.—C. G. G.

CHRISTMAS DAY IN THE CLUB-HOUSE.

CHRISTMAS CLOSING.—The House Committee of the Royal Aero Club announces that from 3 p.m. on Saturday, Dec. 24, and on Christmas Day, Monday and Tuesday, Dec. 25, 26 and 27, luncheons, dinners and teas will not be served, *and the bar will be closed*. Breakfasts only will be served to members staying in the Club.

THE MEN ON THE SPOT.

Those who may feel inclined to scoff at the warnings which this paper has published about the danger of our losing the Overseas Markets, because the American manufacturers are ready to supply what the Markets want while we are content to live on the Royal Air Force, will perhaps believe the evidence of men on the spot. An English business man of high repute, who is interested in aircraft but is not in the Aircraft Trade, has recently made a tour of the World on behalf of his own firm. As the result of his experience, and without having read the opinions expressed in this paper, he writes:—

I had some little opportunity of looking into the Aircraft situation, and, unless our people over here take some steps to stem the tide of American infiltration, they will find themselves in the same position as the Motor Car Manufacturers. But in their case it will be pure neglect, whereas in the case of the Motor Car Manufacturer he has largely been tied hand and foot from 1914 to 1923.

I have been thinking of writing to the S.B.A.C. on the question, but I find one gets so very little thanks for endeavouring to be of assistance when it is not asked, that perhaps one had better leave it alone. There is much that could be said on the subject.

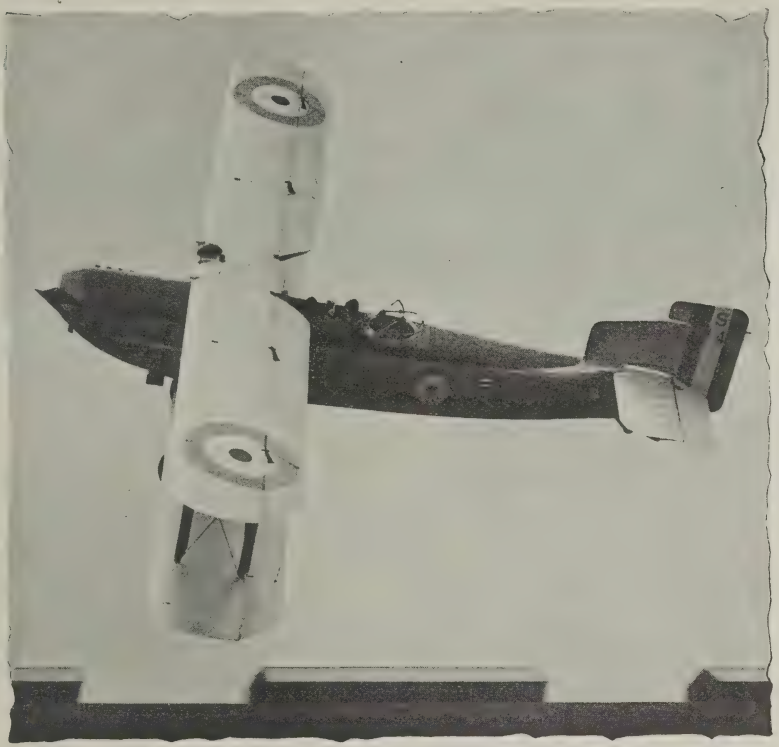
Following that, here is the opinion of an Australian pilot, who has had considerable experience of air-line work:—

I have now flown nearly 400 hours on aerial mail routes and disagree with your specifications on page 428, which are otherwise really good. Fuel capacity should be at least 5 hours, and 6 hours is most desirable. Price should not exceed that of a standard D.H.50A (i.e., £2,000) F.O.W.—Australia.

One laid down the fuel capacity as 3½ hours. There should be no difficulty in fitting tanks for 5 or 6 hours, even though full tanks might mean 3 passengers instead of 4. And 3½ hours at 120 m.p.hr. is better than 5 hours at about 100 m.p.hr. Continuing he says:—

The British aircraft manufacturers are likely to retain the Australian trade unharrassed (but don't tell them) as the Americans have not proved their machines to be equally as safe as British on regular routes, and do not issue certificates of airworthiness equal to British standards, and Australians are too wary to boom aviation for a year or two, let alone start on U.S. machines.

The Fairey IIIF Aircraft.



The Fairey IIIF Aeroplane fitted with Napier "Lion" Engine.

Apart from its high performance one of the particularly impressive features of the Fairey IIIF is its adaptability. Its general layout lends itself to a much wider range of duties than is usually possible and among other operations provides for reconnaissance, bombing, spotting, fighting and photography. This aircraft is also suitable for civil requirements.

The exceptional adaptability of the IIIF is doubly extended by the rapidly interchangeable sea and land undercarriages.

Also Sole Manufacturers and Licensees of THE FAIREY PATENT METAL AIRSCREW (Licence Reed) for the British Empire.

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FAIREY AIRCRAFT

The two-seater you mentioned looks nice, but has a comparatively poor performance, the four-seater gets off well and handles nicely, but lacks speed, range, and climb to say 7,000 feet. (The height above which one would have to fly to avoid being bobbed about like a cork, with "Willie-Willies" carrying columns of dust, or 40-60 m.p.h. gales carrying clouds of dust to 8-9,000 feet.) The four-seater recently flew with full load from Sydney to Adelaide and returned successfully, but one trip is no criterion where regular or serious air travel is concerned.

Here he writes in ignorance of the fact that American machines will ere long carry airworthiness certificates, which if less all-guaranteeing than ours, will be good enough for practical purposes. So there is no harm in "telling England." He goes on :—

A three-seater should sell here by the dozen at £900 with 125 h.p. engine, cruising speed 95-100, landing speed not in excess of 45 m.p.h., with full load, range 5-6 hours.

For the aerial mail route is now required a 6-passenger with 300 h.p. air-cooled engine, cruising speed of at least 100 m.p.h. and landing with full load, 6 passengers, 200 lbs. each and 200 lbs. parcels and mails not in excess of 50 m.p.h. and fuel range of 6 hours.

There is another nice specification to which to work. Where is the 300 h.p. air-cooled engine? We may have a V-type 220 h.p. soon, by doubling the little De Havilland engine now used in the Tiger-Moth. But there is no 300 h.p. in sight.

Personally one believes that a 5-seater with 220 h.p. and a 10-seater with a geared-down Jupiter or Jaguar would provide the two types needed.

Be that as it may. If the British manufacturer is going to get and keep the World's markets, now is the time to set about it. We can do it now. But if we wait till the Americans get there we shall have a hard job to shift them out.—C. G. G.

AMERICAN CIVIL AVIATION NOTES.

The U.S. Department of Commerce has appointed Mr. James Summers as American Trade Commissioner for Aeronautics in Panama City.

This is the first overseas appointment of this nature and its object is to develop sales opportunities for American aircraft throughout Latin America.

The Alexander Aircraft Co. of Denver, Colorado, have during the past summer maintained an average production of twelve aircraft per week. In October they had unfilled orders for 173 aircraft for 67 of which they had received either full payment or a deposit.

In addition to their standard Alexander "Eaglerock" they have started the construction of a new type eight-seater monoplane, fifteen of which have been ordered by Atlantic Airways, Inc., of New York City.

In Wichita, Kansas, there are now five commercial aircraft factories—the Swallow Airplane Manufacturing Co., Travel Air, Inc., the Laird Aircraft Corporation, the Stearman Aircraft Co. and the Cessna-Roos Aircraft Co.

Travel Air, Inc., of Wichita, Kansas, has orders for approximately 600 aircraft and has started to double its new factory which was only completed some four months ago.

Mr. Louis Chevrolet, the well-known automobile engine designer, has announced that he will probably open a factory in Wichita for the production of an aero-engine of his own design.

Mr. E. H. Casheling, of the Australian branch of the Institute of Aeronautical Engineers, is in the United States at the instance of the Larkin Aircraft Supply Co., and is said to be investigating American commercial aircraft, in view of the future purchases which will be made by his associates on his return to Australia.

He is reported as saying that there are 25 or 30 purchasers in Sydney alone who are awaiting his return and that American manufacturers can surely expect business from Australia if they are willing to supply the right type of aircraft.

The Cuban Military Air Service has purchased a Fokker Universal (Wright Whirlwind engine). After tests at Teterboro this machine was flown to Cuba by Mr. Balchen, the Fokker test pilot, and Capt. Eduardo Laborde of the Cuban Army.

The Curtiss Aeroplane and Motor Co., Inc., are said to be building an eight-cylinder-in-line air-cooled engine at their Buffalo works

Negotiations are now being made for the establishment of a plant for the manufacture of the Curtiss D-12 engine in Japan.

The Wright Aeronautical Corp. of Patterson, N.J., are reported to be developing a big inverted 12-cylinder air-cooled engine of 800 h.p. very much on the lines of the inverted air-cooled Liberty engine.

A Conference is being held between the Department of Commerce and the Aircraft Industry at Washington this month, at which it is proposed to discuss, among other things, airworthiness legislation.

The present proposal is that after January 1, 1928, no war surplus aircraft shall be licensed for passenger transport operations and that all new aircraft marketed shall be of the types approved by the Department following a check of engineering data and flight tests.

So far as is known the following types have satisfied the requirements of the Department and have been granted a Certificate of Airworthiness :—The Buhl Airster and Buhl Airsedan (Buhl Aircraft Corp.); the Johnson Twin-60 (Johnson Aircraft Corp.); the Douglas O-2, M-2, M-4 and C-1 (Douglas Co.); the Alexander Eaglerock (Alexander Aircraft Co.); the Fairchild FC-2 (Fairchild Airplane Manufacturing Corp.); the Fokker Universal (Atlantic Aircraft Corp.); the Waco-9 and Waco-10 (Advance Aircraft Co.); the Driggs Dart (Driggs Aircraft Corp.) and the Stinson Detroiter monoplane (Stinson Aircraft Corp.).

The U.S. Aircraft Industry, according to the Department of Commerce, did $9,000,000 worth of business in the year 1926, only one-third of which came from the U.S. Government. And that was a year ago. 1927 results are bigger, and still less dependent on Government orders. British Manufacturers please note.

AMERICAN SERVICE AVIATION NOTES.

The Navy Department has ordered three Keystone experimental training aircraft of the type XBK-1 from the Keystone Aircraft Co. of Bristol, Pa. These will be sent to Naval Air Stations in various parts of the United States for practical test with a view to their ultimate use as standard training equipment.

The Army Air Corps has awarded a contract to the Atlantic Air Corporation for eight Fokker C-2A transport aircraft (three Wright Whirlwind engines) at a total cost of $328,076. These aircraft are similar to the Standard Fokker F.VII-3m. three-engined commercial aeroplane, one of which was used by Lieuts. Maitland and Hegenberger on their flight from San Francisco to Hawaii.

The Navy Department has placed an order with the Pratt and Whitney Aircraft Co. for 346 440 h.p. Wasp engines at a total cost of $3,147,323. This is one of the biggest engine orders ever placed by the U.S. Navy.

A contract for the supply of 35 Curtiss O-2 observation aircraft (400 h.p. Liberty engines) has been awarded to the Curtiss Aeroplane and Motor Co. by the Army Air Corps. These machines will be allocated to various units of the National Guard.

THE COST OF FRENCH MILITARY AVIATION.

The estimates of the French Ministry of War, which come before the Chamber for discussion this week, provide for an increase in the cost of the *Aéronautique Militaire* of 56,496,215 francs (about £455,000) to a total for 1928 of 608,940,760 francs (about £4,900,000). At the same time the costs of the other sections of the military services show a decrease. The proportion of the cost of the Military air service to that of the army as a whole is thus increasing and seems likely to do so still further.

In an article by the Paris correspondent of *The Times*, published on Dec. 5, the reasons for this increase are clearly set out. The Air Arm is expensive because it needs highly technical personnel, who must be well paid and who must be maintained more nearly to war strength than other arms. This is the more acute in France because of the reductions in the strength of the Army and by the short-service system which has been introduced since the War 1914-18. This latter change has led the Authorities to place more and more reliance on the air service as a means of delivering an early and staggering blow to the enemy on the outbreak of war.

Another cause for the increased cost is the increasing cost of maintaining aeronautical equipment. To keep the equipment up to date faster and faster aircraft with more and more powerful engines are required every year.

The immediate prospects are thought to be very alarming. The production this year of racing seaplanes capable of 300 miles an hour, with engines no larger than those normally used on single-seat fighters but vastly more expensive and capable of giving nearly 1,000 h.p., brings the 1,000 h.p. single-seat fighter into the realm of practicability.

The French aeronautical authorities hope to keep up the performance of their fighting machines rather by improved aerodynamic design than by forcing up the power of their engines. But even so they have decided that they must face the cost of still faster and more expensive fighters.

To counterbalance to some extent this increase of cost, they propose to use cheaper reconnaissance machines, for which a high performance is not thought necessary. The correspondent of *The Times* suggests that this policy even if sound is likely to damage the *moral* of the service when people realise that even in only one class of machines, cheapness and quantity has been preferred to quality.

"LW" The record of a veteran MOTH



Captain W. J. McDonough, the Chief Instructor of the Midland Aero Club with G-EBLW.

¶ G-EBLW was delivered to the Midland Aero Club on the 25th September, 1925, the ninth Moth with a Cirrus engine to leave the de Havilland Works.

¶ Her Certificate of Airworthiness was issued on the 9th Sept., 1925, and renewed without a replacement being necessary on the 29th October, 1926.

¶ She has just been overhauled and repainted for the first time since she left the Works and, even now, it has not been necessary to refabric the planes. Her Certificate of Airworthiness was again revalidated for a year on the 15th December, 1927.

¶ As the "Solo" machine of the Midland Aero Club "LW" has flown 543 hours without a forced landing and no less than 18 pupils have taken their pilots' licences on her.

¶ During her whole period of commission THE ONLY REPLACEMENTS used in her maintenance have been TAIL-SKID SHOES AND SHOCK ABSORBERS.

¶ The record of "LW" is typical of the service which Moth Landplanes and Seaplanes are giving all over the World.

This statement is made with the knowledge and authority of the Midland Aero Club.

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THE ROYAL AIR FORCE.

The London Gazette.

Dec. 6.

General Duties Branch.—Sq. Ldr G. W. Robarts, M.C., is placed on half-pay, Scale B (Nov. 24) to Dec. 1, inclusive.

The following Plt. Offs. on probation are confirmed in rank:—H. H. Ellison, C. M. Buxton, J. R. Whitley, T. M. Abraham, R. J. Carvell, A. A. Rumsey, N. W. K. Seeman (July 17); L. S. Hill (July 21); J. W. Pease (Aug. 26); H. Broadhurst (Oct. 1); L. Newcombe, J. G. Elton (Oct. 11).

Flg. Off. J. L. Wingate is seconded for duty with the British Naval Mission to Greece and is granted the acting rank of Flt. Lt. (Nov. 18); A. B. F. Alcock, D.S.C., Capt., R.M., Flg. Off., R.A.F., relinquishes his temp. comn. on return to Marine duty (Nov. 11).

Stores Branch.—Plt. Off. on probation E. G. Northway is confirmed in rank and promoted to the rank of Flg. Off. (Oct. 9).

Medical Branch.—Flt. Lt. C. P. Barber is promoted to the rank of Sq. Ldr. (Nov. 28).

Chaplains Branch.—The Rev. R. N. Shapley is granted a S.S. comn. as a Chaplain, with the relative rank of Sq. Ldr. (Nov. 11).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. as Plt. Offs. on probation:—Class AA.—T. S. Dykes (Nov. 21).

Special Reserve.—J. H. Thompson (Nov. 14); G. F. Humphries (Nov. 14); M. E. Morris (Nov. 14); L. V. G. Barrow (Nov. 17). The following Flg. Offs. are transferred from Class A to Class C:—F. J. Brunton (June 30); G. S. Brown (Nov. 30). Flg. Off. J. W. Brown relinquishes his comn. on completion of service (Dec. 2); Flg. Off. W. E. Cowan is removed from the Service (Nov. 29).

Appointments.

Week ending Dec. 13.

General Duties Branch.—Squadron Leaders G. W. Robarts, M.C., to H.Q., 'Iraq, 2/12. P. C. Sherren, M.C., and G. D. Nelson, D.S.C., A.F.C., to Aircraft Depot, 'Iraq, 2/12. H. P. Lale, D.S.O., D.F.C., to No. 30 Sqdn., 'Iraq, 2/12. G. R. A. Deacon, M.C., to H.Q., 'Iraq, 2/12. C. B. Cooke, to No. 503 Sqdn., Waddington, 29/11. A. S. Maskell, to R.A.F. Depot, Uxbridge, 18/11.

Flight Lieutenants A. McR. Moffatt, to A. and G. School, Eastchurch, 22/11. H. S. Scroggs, to R.A.F. Station, Bicester, 30/11. J. S. Nichol, to R.A.F. Station, Upper Heyford, 19/11. R. L. Sweeny, to R.A.F. Depot, Uxbridge, 18/11. G. R. Ashton, to R.A.F. Depot, Uxbridge, 18/11. G. C. Rhodes, L. J. Riordan, A.F.C., and H. J. Saker, to H.Q., 'Iraq, 2/12. H. J. Roach, A.F.C., to Armoured Car Wing, 'Iraq, 2/12. G. S. Oddie, D.F.C., A.F.C., to No. 6 Sqdn., 'Iraq, 2/12. A. L. A. Perry-Keene, to Aircraft Depot, 'Iraq, 2/12. R. L. Sweeny, to E. and W. School, Flowerdown, 22/12. N. V. Moreton, to No. 16 Sqdn., Old Sarum, 28/1. R. M. Davy and G. McCormack, to No. 14 Sqdn., Middle East, 2/12. I. E. Brodie, to No. 27 Sqdn., India, 14/11.

Flying Officers R. A. A. Cole, to No. 4 F.T.S., Middle East, 24/11. L. W. Dickens, A. P. K. Hattersley and C. F. C. Coaker, to No. 4 F.T.S., Middle East, 2/12. F. Gower-Jones, to No. 8 Sqdn., Middle East, 2/12. T. A. Hale-Munro, to No. 29 Sqdn., Duxford, 5/12. V. B. Bennett, to C.F.S., Wittering, 28/11. F. W. Boggis, to H.Q., 'Iraq, 2/12. W. J. Coadwell, D.S.M., to Aircraft Depot, 'Iraq, 2/12.

Pilot Officer J. D. Allcroft, to No. 5 F.T.S., Sealand, 1/12.

Medical Branch.—Wing Commander H. B. Porteous M.B., to R.A.F. General Hospital, 'Iraq, 26/10.

Squadron Leaders H. McW. Daniel, M.D., to R.A.F. Depot, Middle East, 15/10. W. F. Wilson, M.C., M.B., to No. 4 F.T.S., Middle East, instead of to H.Q., Middle East, 14/10.

Flight Lieutenants E. D. D. Dickson, M.B., F.R.C.S. (E.), D.L.O., to Palestine General Hospital, 15/11. J. G. Russell, M.B., B.A., to H.Q., Middle East, 2/11. C. V. D. Rose, to No. 4 F.T.S., Middle East, 7/11. A. Dickson, M.B., to No. 5 Sqdn., India, 30/10. G. J. Hanly, M.B., to No. 60 Sqdn., India, 4/11. B. W. Cross, to Aircraft Depot, India, 29/10. R. H. Stanbridge, to R.A.F. Depot, Middle East, 15/10. J. Parry-Evans, to No. 4 F.T.S., Egypt, 28/10. A. F. Cook, to R.A.F. Depot, Middle East, 18/11. Flight Lieutenant (Dental) J. R. Williams, to R.A.F. Station, Duxford, 21/12.

Stores Branch.—Flight Lieutenants H. L. Woolveridge to Armoured Car Wing, 'Iraq, 2/12. R. F. Osborne, to Aircraft Depot, 'Iraq, 2/12. J. Lundon, to R.A.F. Station, Northolt, 10/10. C. J. Polden, to Air Ministry, Directorate of Equipment, 2/12.

Flying Officers F. C. Griffin and W. A. D. Collingwood, to Aircraft Depot, 'Iraq, 2/12. G. F. P. Warren, to Central Supply Depot, 'Iraq, 2/12. E. A. Burridge, to H.Q., Transjordan and Palestine, 2/12. F. R. Lines and T. I. Iliff, to R.A.F. Depot, Middle East, 2/12. W. H. Harrison, to R.A.F Depot, Uxbridge, 18/11.

Accountant Branch.—Flight Lieutenant L. de L. Leder, to No. 14 Sqdn., Middle East, 2/12.

Flying Officers F. C. Langley, to No. 8 Sqdn., Middle East, 2/12. K. E. M. Holmes, to Station H.Q., Hinaidi, 2/12.

Pilot Officers R. D. Pratt, L. Chegwidden, F. C. Rendle, N. Wallett, G. H. White, R. L. M. Hall, V. H. Lewis, V. Matveieff, E. L. G. Le Dieu and J. R. Ackers, to H.Q., Cranwell, on appointment to Perm. Comns., 3/12.

The Accident at Enfield.

At the inquest at Enfield on Dec. 7 on the bodies of Flg. Off. R. D. Whelan and AC.2. H. A. Lacey, who were killed on Dec. 3, Flt. Lt. C. F. Horsley said that the two men were flying from Martlesham Heath to Andover. Whelan was an extraordinarily good pilot and Lacey a competent air mechanic. The machine was a two-seater Fox. There were 15 or 16 of them in the Squadron and had been in use approximately six months. They were very reliable. He thought the accident was due to a bank of fog. It was quite clear that the pilot had not lost his way because he was directly on his course.

The Calshot Accident.

The Calshot news in *The Daedalus*, the magazine of the Old Boys' Association, R.A.F., Halton, contains the following note:—

304644 L-AC. Gain, J., of the Halton 4th Entry, who was injured when a seaplane crashed in Southampton Water on Sept. 27, is showing signs of recovery after lying unconscious for nearly three weeks in the Royal Victoria Hospital, Netley. It is expected that he will now make a speedy recovery.

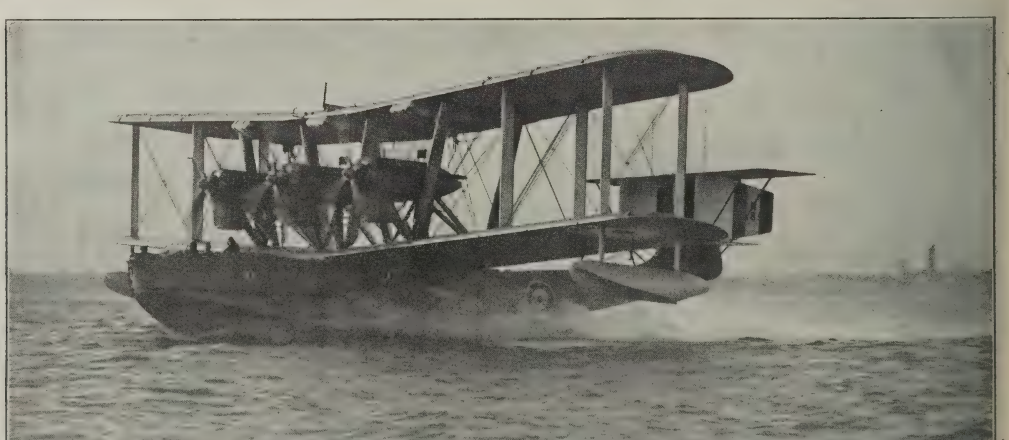
L-AC. Gain was rescued at the time of the accident by Flt. Lt. W. E. Staton, R.A.F., who was in a flying-boat moored near by and who dived into the water fully dressed and extricated Gain with great difficulty from the wreckage.

Commands and Staff.

Sq. Ldr. H. P. Lale, D.S.O., D.F.C., whose appointment to command No. 30 (Bombing) Squadron, 'Iraq, is dated Dec. 2, served with the Royal Bucks Hussars (Yeomanry) from 1902 to 1912. In 1914 he was in Canada and served with the Canadian Cavalry until he transferred to the R.F.C. in 1916. He was awarded the D.F.C. in *The London Gazette* of Dec. 3, 1918. The *Gazette* states:—

A bold and courageous officer, who leads his patrol with marked skill and judgment. He has accounted for 12 enemy aeroplanes—five crashed, four shot down in flames and three driven down out of control. On Sept. 6 he led his patrol of 9 machines to the assistance of some formations that were attacked by thirty or forty enemy aircraft; in the engagement he and his observer accounted for two Fokkers; eventually the enemy was driven off, five of their machines being destroyed and three shot down out of control.

After the Armistice he was posted to H.Q., No. 2 Indian Wing, and was awarded a bar to his D.F.C. for distinguished services during the operations in December, 1919. He was subsequently awarded the D.S.O. for "personal gallantry and administrative efficiency" in the Waziristan operations of the Spring of 1920. On being restored to the Home



UNDER WAY.—The Blackburn Iris II (three 650 h.p. Rolls-Royce Condor engines). This machine is one of our most recent successful flying-boats.

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-IRIS-

The BLACKBURN IRIS II has proved itself the fastest Flying boat in the Fleet. It is claimed to have better all-round performance, endurance, and stability than any boat yet built. The seaworthiness of the IRIS is remarkable, and a revelation to all who witness its manœuvres. This flying boat is admirably suited for both commercial and naval purposes.



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B 33

Establishment in 1921 he was posted to the School of T.T. (Men), Manston, and remained there until 1923, when he was promoted to the rank of Squadron Leader and posted to No. 24 (Communication) Squadron. In April, 1924, he was appointed to command No. 32 (Fighter) Squadron and in August, 1926, he was appointed to H.Q., Fighting Area, Uxbridge.

H.M.S. Courageous.

H.M.S. *Courageous*, 18,600 tons, which was paid off into Dockyard Control for conversion into an aircraft-carrier on June 27, 1924, will be completed in January, 1928. Capt. Aubrey Lambert, R.N., is in charge of the work on board both the *Courageous* and her sister-ship, H.M.S. *Glorious*, which is being similarly converted.

The Fleet Air Arm Flights to be disposed in the *Courageous* are No. 407 (Fleet Fighter), Flt. Lt. L. R. Briggs (Flycatcher); No. 445 (Fleet Spotter Reconnaissance), Flt. Lt. D. S. Allan (Fairey III.F); No. 446 (Fleet Spotter Reconnaissance); No. 463 (Fleet Torpedo), Flt. Lt. A. H. Paull (Darts); No. 464 (Fleet Torpedo), Flt. Lt. E. W. Anstice, Lt., R.N. (Darts).

The estimated cost of the reconstruction of H.M.S. *Courageous* is a quarter of a million more than the original cost of the ship when completed in January, 1917.

R.A.F. SPORTS AND PASTIMES.

Association Football.

The R.A.F. team beat Oxford University on Dec. 7 by six goals to three. Oxford were the better side until half-time, when they were leading by three goals to one. The R.A.F. team were :—

L. Quadling, goal; G. T. Jones and Flt. Lt. S. N. Webster, backs; Cpl. R. Stewart, R. J. Robinson and Cpl. R. W. Baldwin, half-backs; C. Parrish, L. Oates, J. Ewers, L. S. Smith and D. Cockle, forwards.

Inter-Service Boxing.

A Boxing Match between teams representing the Brigade of Guards and the Royal Air Force was held in the Gymnasium, R.A.F. Depot, Uxbridge, on Dec. 8. The result was a draw, each team scoring 22 points. The programme consisted of 15 three-round contests and 2 points were awarded to each winner and 1 point to each loser.

In the Heavy-weights L/Cpl. Young w.o. AC. Forrester. There were also two special six-round contests. In the first of these AC. McCann beat Cpl. Cromey of the Beds. and Herts Regt. and in the second L-AC. Williamson beat Pte. Morpeth of the Loyal Regt.

In the Welter-weights AC. Ballantyne, who had already been beaten by Guardsman Jarman, fought Drummer Courtney in the place of two men who were unable for various reasons to fight. This proved to be one of the best bouts of the evening. Drummer Courtney (Coldstream Guards) put up a very game fight against a stronger and more experienced boxer. Although he was badly knocked about in the first round and literally knocked round the ring in the second round, he made a great recovery and gave AC. Ballantyne a good hammering in the last round.

Another good fight in the Welter-weights was between Cpl. Brady (R.A.F.) and L/Cpl. Peters (Irish Guards). Cpl. Brady was R.A.F. Welter-weight champion in 1922 and even the speed and agility of L/Cpl. Peters could not break down his guard. The bout between AC. Woods and Sjt. Hinds (Welters), both experienced fighters, was marred by too much holding. Guardsman Jarman was too good for AC. Ballantyne, the R.A.F. Welter-weight champion in 1924. In the Middle-weights Sjt. Giles (Welsh Guards) beat Sjt. Higgins (R.A.F.) after a poor fight.

On the whole the R.A.F. were better in the lighter weights. They won the feather-weight bout, AC. Callicott beat Cpl. McKeown, the Light-weights, AC. Garratt beat Guardsman Warwick and Guardsman Reece, and in the Welter-weights Cpl. Brady beat L/Cpl. Peters, AC. Woods beat Sjt. Hind, AC. McGinn beat Guardsman Gleadow, AC. Ballantyne beat Drummer Courtney, and was beaten by Guardsman Jarman. In the Middle-weights the Guards showed superiority, Sjt. Giles beat Sjt. Higgins, Guardsman Davis beat AC. Bogod, and Guardsman Gill beat AC. Christian, AC. West beat Guardsman Stewart. In the Light Heavy-weights Guardsman Hogan beat AC. Watts and Guardsman Beacham beat AC. Mather.

The meeting was very well organised and the boxing was as clean and hard as Service boxing always is.

The R.A.F Club.

The Royal Air Force Club will be closed from 2.30 p.m. on Dec. 28, until 12.30 p.m. on Dec. 29 (for the purpose of holding the Annual Staff Dance) except in so far as affects bedroom accommodation (with breakfast only) to Residents and Members who have engaged bedrooms prior to noon on Dec. 28. The Club will remain open during the Christmas Holidays.

No. 3 Squadron Dinner.

The Annual Dinner of No. 3 (Fighter) Squadron, R.A.F., was held at the Trocadero on Dec. 2. Air Marshal Sir John Salmond was in the Chair. Twenty-seven past members of the Squadron and the entire strength of its serving officers, except one, sick, making a total of 43, attended this successful and cheery function.

Speeches were made by the Chairman, by Wing Cdr. T. O'B. Hubbard, on grave international questions; by Wing Cdr. F. H. Unwin on the old days in the Squadron during the Retreat; by Sq. Ldr. E. Digby-Johnson on the Squadron's work during the year; by Capt. F. T. Courtney and Flt. Lt. Bulman on the dark and bright side of Civil Aviation respectively; and by Flg. Off. P. Cranswick for the younger generation.

Suitable notes were exchanged with No. 601 (County of London) Sqdn., Auxiliary Air Force, whose dinner synchronised with that of No. 3 Sqdn.

Martlesham's Annual Dinner.

On Friday, Dec. 9, the Officer Commanding and Officers of the Aeroplane and Armament Experimental Establishment at Martlesham Heath gave their Annual Dinner to the Contractors, that is to say, the representatives of the aircraft and engine firms and certain of the suppliers of material, with whose products the personnel of the Station experiment.

Martlesham, as the Establishment is familiarly called, is one of the greatest assets of the Royal Air Force. Martlesham performance figures are for aircraft what the Government Hall Mark is for gold and silver. Nobody can ever question them, for they are got by such an exhaustive system of test, that practically all possibility of human error is eliminated. Machines are taken up time after time under all sorts of weather conditions so as to do away with any possibility of the weather affecting the figures either favourably or unfavourably. And the machines are flown by a number of different pilots so that the skill, or lack of it, of the individual pilot shall not affect the figures.

Martlesham is often unjustly blamed for delays between the delivery of a machine by the contractor and its final approval or condemnation by the Air Ministry. Sometimes Martlesham is the cause of delays, but the blame then lies not with the personnel, but with the atmosphere. One cannot do height-tests in a North Sea fog, nor can one do accurate speed tests in a North Sea gale. And when tests are delayed through obstructive routine in the sub-departments at the Air Ministry nobody chafes at the delay more than do the Martlesham pilots in charge of the tests.

The personnel at Martlesham changes over at irregular intervals just as does the personnel of any ordinary Service squadron, so nobody ever becomes fossilised in his job. New men with a fresh outlook are constantly coming to the Station, but in spite of changes the atmosphere always seems to be the same. Everybody is always keen on his job and full out to get the best possible results from the machines sent for test.

Naturally the job of a test pilot is in many ways more interesting than that of a pilot in a Service squadron with a set routine of duty always flying the same type of machine. But the necessarily irregular nature of the work might be expected to produce a haphazard method of doing things. In spite of this the whole station is as smart as is that of any regular Service squadron.

Naturally constant testing of new machines brings the personnel of the station into continual contact with the leading people in the Aircraft Industry and their representatives, who go to Martlesham to watch the testing of their machines. This accounts for the general feeling of goodwill towards the British Aircraft Constructors, officially known as Contractors, though one officer referred to them in a friendly way as Profiteers. This feeling is shown annually in the Dinner which the Establishment gives to the said contractors.

Just how an Air Force Station stuck out in the middle of a blasted heath manages to put on a dinner that would be a credit to any first-class London hotel is one of those things which can only be explained by the ability of the Air Force to go anywhere and do anything on which it sets its mind. But, judging by the fare which was set before the contractors last week, Martlesham seems to be particularly fortunate as regards its present culinary staff.

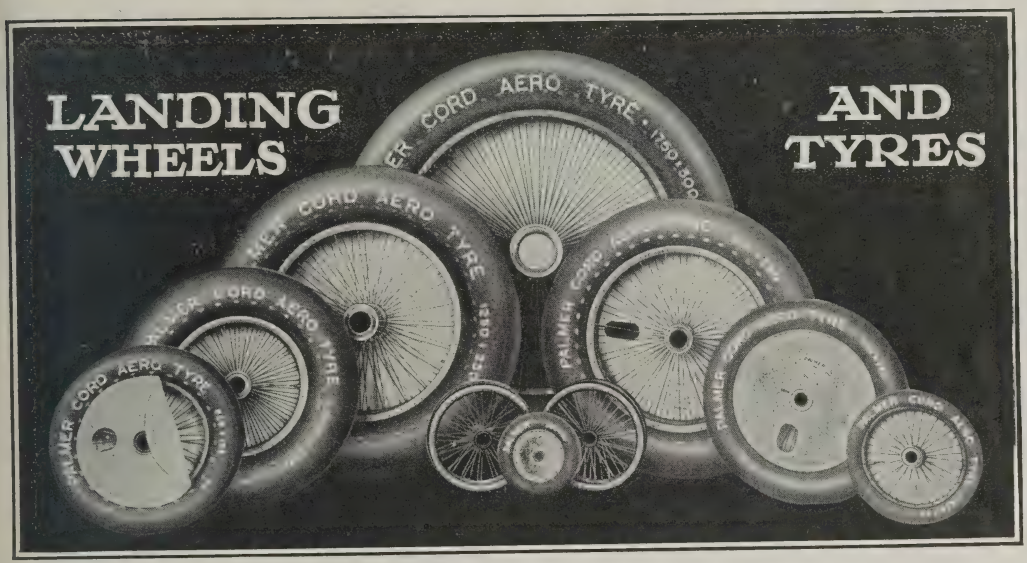
Dinner was enlivened by an extremely good dance-band which the Station has recently developed in addition to its brass-band. Both bands are entirely voluntary and the airmen deserve to be highly complimented not only on the good spirit they show in joining the bands but on their performance. Incidentally one may mention that in Flg. Offs. Foster and King the Station has two of the best pianists one has heard.

The after-dinner speeches, being more or less of a domestic nature, must not be reported, but one can say that Wing Cdr Harold Blackburn, the O.C., recognised fittingly the efforts of the contractors to supply the Air Force with adequate aircraft, and expressed his belief in air transport as the proper method of holding the British Empire together.

Mr. Handley Page, having referred delicately to slots, also recognised the excellent work which Martlesham does in discovering for the Trade some of the errors of its ways. And he was fully supported in his views by Mr. A. V. Roe and Mr. John Lord.

Thereafter followed the usual demonstration in force in which the more agile of the contractors proceeded to take it out of the test pilots for not attaining the figures for which

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STANDARD SIZES.

Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
700×100	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×200	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

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they had hoped, and the test pilots in return impressed on the contractors the need for better and better aircraft. Beyond the fact that the streamline fairings of Mr. Lord's undercarriage became somewhat deranged and that one test pilot damaged an aileron, no particular harm was done. The usual tank exercises merely proved the inability of material to stand up to human energy.

Altogether it was a thoroughly good show and fully maintained the highest traditions of Martlesham.—C. G. G.

AIR AFFAIRS IN PARLIAMENT.

COMPASSES.

In the House of Commons on Dec. 5, in reply to a question by Col. Day, the Secretary of State for Air said that the compasses of R.A.F. machines were checked, and, if necessary, adjusted periodically as a matter of routine once every four weeks if possible, but on no account less frequently than once every eight weeks. In addition they had to be adjusted before an oversea or a long cross-country flight and on a variety of other special occasions which were set out in considerable detail in the regulations. The compasses of civil aircraft plying for public service had to be examined and certified within the 24 hours preceding the flight. In addition the compasses of all civil aircraft were inspected before the renewal of the certificate of airworthiness.

PILOTS IN THE R.A.F.

In the House of Commons on Dec. 6, in reply to a question by Major Braithwaite, the Secretary of State for Air said that the present number of qualified pilots in the R.A.F., Air Force Reserve and Auxiliary Air Force was 3,239, of whom 119 were, for medical or other reasons, no longer available for pilot's duties. No corresponding official figures had been made public in regard to the United States, France, Italy or Russia. Germany had no military or naval air service.

THE NEW AIRSHIPS.

In the House of Commons on Dec. 7, in reply to Mr. Hardie, the Under-Secretary of State for Air said that the designs and methods of construction of R.100 and R.101 were essentially different and the advanced stage of the erection of the framework of R.100 as compared with that of R.101 did not involve so great a disparity as might at first sight appear. A large amount of research and other work (including experimental flying with the R.33) had been carried out at Cardington simultaneously with the designing of the R.101.

In reply to Mr. Rose, the Under-Secretary of State for Air said hat it had been estimated that a handling party of about 400 men would be required at the first launching of these two airships. When their trials were completed they would ordinarily operate from mooring masts.

Mr. Rose: "May we assume that the lifting power is only 25 tons, although we have been told that it would be 60? Does not that give the whole game away?"

FLYING CLUB SUBSIDIES.

In the House of Commons on Dec. 7, in reply to Capt. Evans, the Under-Secretary of State for Air said that the amount of subsidy paid to the London Aeroplane Club was £1,472 10s. for 1926 and £994 15s. for 1927 up to Nov. 30. Three machines were at present available and another would be available at the end of this week. There were two paid instructors, but he had no information regarding the number of pupils on the waiting list or the period they were kept on that list. The question of improving the general conditions and amenities was entirely one for the club management. He did not consider that the results achieved by this club since its inception supported the assumption that it compared unfavourably with any other light aeroplane club.

In reply to Col. Woodcock, Sir Philip Sassoon said that he was entirely satisfied with the work of these clubs and the effect of the subsidies paid by the Government.

EXHIBITING THE S.5.

In the House of Commons on Dec. 7, in reply to Capt. Bourne, the Secretary of State for Air said that the transport expenses from Felixstowe to London and back for the purpose of exhibiting the seaplane which won the Schneider Cup on the Horse Guards Parade, fell on the Air Ministry Vote. Otherwise he was aware of no expenditure from public funds resulting from this exhibit which had been arranged by the Royal Aero Club.

NEXT YEAR'S SCHNEIDER CONTEST.

In the House of Commons on Dec. 8, in reply to Lt.-Cdr. Kenworthy, the Secretary of State for Air said that the whole question of what action was being taken by the Air Ministry to retain the Schneider Cup next year was still under consideration.

EDUCATING THE HOUSE.

A report has been issued to the effect that an interesting Banquet took place at the House of Commons on Tuesday last, Dec. 6, when Viscount Curzon and Sir Harry Brittain (Director of the Napier Co.) entertained the Schneider Team. There were about one hundred members of Parliament present, representing all parties, and the Banquet was said to be one of the most interesting ever held in the House of Commons.

The report says that it was remarkable for the fact that distinguished Members of the Labour and Liberal parties were whole-heartedly in favour of Government assistance being given for next year's Schneider Trophy Contest.

The Secretary of State for Air, the Right Hon. Sir Samuel Hoare, was present, and the principal speakers were the Lord Hugh Cecil, Mr. Philip Snowden, and Sir John Simon.

PILOTS AND POLO.

In response to enquiries, criticisms, objections and so forth, one would point out that any ham-handed aviator can fly a D.H.9a for hundreds of hours, given enough training at the start, but that a man has to have hands to be able to play polo. If an officer happens to put in more flying hours than anybody else in his squadron and play polo as well, he is just that much the better man. So that's that. No wonder some people take picture papers because they cannot read.—C. G. G.

AUSTRALIA AND OCEAN-FLYING.

In The Aeroplane dated Sept. 14 *The Manchester Guardian* was quoted as the authority for the statement that the Australian Government had prohibited flights by landplanes of more than 50 miles over the sea. A particularly well-informed correspondent in Australia writes as follows:—

As a matter of fact the Government has done no such thing. Any pilot can fly 60 or 6,000 miles, if he so desires and is able, but we do refuse him the legal right of carrying paying passengers with him in that event,—unless he uses a flying-boat or some such craft.

The Australian Government does everything short of prohibition to deprecate long overseas flights in land machines, not from motives of solicitude on behalf of the would-be suicide, but because of the deplorable reaction on the minds of the very many who, here at any rate, are on the verge of believing that after all Civil Aviation is not so dangerous as they have, as the result of Press propaganda after accidents, been led to believe.

The memory of the pilot who dies in these attempts soon fades, but unfortunately he lives for ever statistically, and so influences to an appreciable degree insurance and other factors that affect aviation as a whole.

Never has the case against needless flying risks of all kinds been so neatly and effectively stated. Congratulations to the writer.—C. G. G.

LAND, SEA AND AIR.

A correspondent of The Aeroplane who has read Admiral Mark Kerr's book "Land, Sea and Air" writes that while he agrees with The Aeroplane's review that this book can hardly be regarded as accurate history, even so he would like to make it quite clear that much of the chapter on the origin of the Air Force *et seq.* are very much more like fiction.

On page 287 Admiral Kerr says, "I was sent . . . . . to assist in forming the Royal Air Force." On page 293 he clearly suggests that he was largely responsible for bringing into being and for founding the independent bombing force. This correspondent states that it is impossible to accept this latter statement. He says:—

Admiralty records, together with his carefully kept personal diary and the evidence of his secretaries, would show that the late Air Commodore R. M. Groves did, long before Admiral Kerr returned from the Mediterranean, practically the whole of the spade work from the Naval side in connection with the formation of the R.A.F. Air Commodore Groves was its strongest protagonist and was, for a considerable time, a voice crying in the wilderness.

The same Correspondent goes on to say:—

As regards the formation of the Independent Force it is true that Admiral Kerr mentions the good work of Lord Tiverton (now Earl of Halsbury) in a minor capacity. Here again I must correct him. I believe it to be open to proof that the whole scheme of strategic bombing was Lord Tiverton's work, and that the credit for realising the enormous value of this lay with Air Commodore Groves who found a place for this officer on his staff in order that he might better press his views. I happened to be on the spot and know the situation from inside. It is probably due to a defective memory that I am unable similarly to remember so much of Admiral Mark Kerr's services.

With reference once more to Air Commodore Groves I notice that the gallant Admiral refers specifically by name to a variety of officers whom he considers received no proper reward for their services and makes up for this by naming them in his book. This makes his total omission of the name of R. M. Groves all the more startling.

R. M. Groves learned to fly, as a Naval Commander, at the end of 1914. Although not a natural aviator he overcame all his difficulties, and after doing more active service flying—with one possible exception—than any other officer of his rank or age, continued a set policy at home of flying to visit Units only on those days when the weather was described as "unsuitable." His example was one of the reasons why the weather is less often unsuitable to-day.

His part in the formation of the Air Force and the start of the Independent Force were but a small part of what the R.A.F. of to-day owes him.

A friend of the writer's, who served on Air Commodore Groves' staff said that he has never met a senior officer more fore-seeing, more self-sacrificing, more completely *au fait* with the broad requirements and the minute details of his Service. He never said a silly thing and never did a mean one.

Air Commodore R. M. Groves, C.B., D.S.O., A.F.C., R.A.F., was killed at Almaza, Egypt, on May 27, 1920, as the result of an accident to a Bristol Fighter of which he was the pilot. On the formation of the R.A.F. Wing Captain Groves (as he was then) was appointed Deputy Chief of the Air Staff under Major-General Sir Hugh Trenchard.—C. M. MCA.



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ABOUT BOOKS.

FOR AIR-GOING FOLK.

["All the World's Aircraft, 1927." Edited by C. G. Grey. Compiled by Leonard Bridgman. 487 pages: (Historical Section 112; Aeroplane Section 300; Engine Section 65 and Airship Section 10). Over 1,000 illustrations. Sampson Low, Marston and Co. Ltd., 100, Southwark Street, S.E.1. Supplied by The Aeroplane Book Department. 42s. net.]

Owing to an unfortunate breakdown at the printing works and the fact that the printers had arranged to do a bit of moving at a date which could not be altered, *All the World's Aircraft*, 1927, which, according to the plans of the compilers, should have appeared in September, will only be out of the publisher's hands at the end of this week. However, those who particularly want copies before Christmas will be able to get them either from The Aeroplane Book Department, 14, Bream's Buildings, E.C.4, or from the Publishers, Sampson Low, Marston and Co. Ltd., 100, Southwark Street, S.E.1, by about Monday or Tuesday next.

Originally the intention was that the book should appear about March in each year. But the compilers came to the conclusion that the best time at which to publish it would be September. This is primarily due to the fact that the newest and best British machines are kept on the Air Ministry's Secret List until they are exposed to public view at the R.A.F. Pageant at the beginning of July. Only after that may photographs and descriptions be published.

Also, during the Summer new machines of all sorts are constantly appearing in this country and abroad, and developments in light aeroplanes and engines and so forth occur during the period between the beginning of March and the end of July when there is the best flying weather. Consequently by finishing the compilation of the book in August and publishing it in September buyers get the most up-to-date information possible.

As it is, in spite of the unfortunate delay this year, the book actually illustrates and describes very nearly as many machines and engines as it would if it appeared next March.

As has now become usual in *All the World's Aircraft*, the latest issue is to all intents and purposes a completely new book as compared with the last issue. Some basic facts such as the names and addresses of official people, aircraft factories, air lines and aeronautical publications remain the same, though many of them have been altered, but there is hardly an aeroplane or an engine in the 1927 edition which appeared in the 1926 edition and those which do appear are accompanied by new or more informative descriptive matter which was not available when they first appeared.

This year 1927 has been particularly spectacular, so far as performances have been concerned, and therefore the more interest attaches to the aircraft which have put up those performances. Every one of those machines from the De Havilland Hercules which took our Air Minister and his party to India at the very beginning of the year, to the machine which won the Schneider Trophy in September, all appear in this latest edition, including the machines which have flown the Atlantic and the Pacific, and those French machines which have put up the various long distance records.

Besides these quite a number of interesting war machines have been produced in foreign countries which have not appeared in The Aeroplane for sheer lack of room to describe them. All these and quantities of new civil aircraft also appear in the new *All the World's Aircraft*.

The Historical Section of the book deals with the progress of aviation in every country as distinct from new aircraft. The most important thing in this part of the book is the very full description of French Service Aviation by Major W. E. de B. Whittaker. Last year he contributed to *Aircraft* an article on the French *Service d'Aviation Militaire* which earned unstinted praise from military writers of the highest importance. This year he has been able to expand that information considerably, adding a complete catalogue of the equipment of French Military Aviation, and in addition he has given a full and detailed account of the French Naval Air Service, concerning which no reliable information has hitherto appeared.

Every effort has been made to condense the information into the most easily accessible form, but there is so much more information to be given about so many new aircraft this year that the actual book is twenty pages bigger than it was last year despite the careful exclusion of all aircraft which have gone out of use since then.

As Editor of the publication one wishes to express one's indebtedness to Mr. Leonard Bridgman for his valuable help in compiling the mass of information in the book. And one can only hope that in spite of the delay in its production those who now acquire copies will feel that the waiting has been worth while.—C. G. G.

FOR SEA-GOING FOLK.

["Jane's Fighting Ships, 1927." Edited by Oscar Parkes, O.B.E., M.B., Ch.B., and Francis E. McMurtrie, A.I.N.A. 472 pp. Sampson Low, Marston and Co., Ltd. Supplied by The Aeroplane Book Department, 42s. net.]

The thirty-first annual volume of this informative and valuable book maintains the high reputation of its predecessors. As a book of reference it is officially recognised by the British and many foreign Navies, and it is of vital interest to all who are interested in maritime defence. With the growth of Air Power its value should extend over a much larger field.

Throughout the book is demonstrated the gradual expansion of Naval Aviation. Seven countries have built, or are building, aircraft carriers and practically all new construction of the big Naval Powers, and some of the smaller ones, is being fitted with accommodation for aircraft. The information concerning aircraft carriers is very full and informative.

The Annual retains its usual form as regards arrangement of contents, and standardisation throughout makes for extreme ease in comparison of details.

Under each country is given full details concerning flags, uniforms, officials, ordnance and shipbuilders followed by very carefully prepared recognition silhouettes of all seagoing warships and auxiliaries. The former all-black silhouette is gradually being replaced by a new open-type shaded drawing, which by revealing a certain amount of useful detail is a very great improvement over the old type. Thereafter follows descriptions and specifications of all effective ships and new construction of each country, illustrated in nearly every case with plans and by one or more photographs.

The wealth of illustration, amounting in photographs alone to over 3,000, forms an interesting study in itself, and this combined with the other information, plans and silhouettes, makes the book unique and reflects great credit on the painstaking efforts of the joint editors.

Although the book is compiled from official information they have managed to introduce many little touches of realism and humour which tend to elevate it above the average stolid book of reference. Apropos the *Goeben*, now renamed the *Yamuz Sultan Selim*, one reads the sardonic

"It is in vain to look for yesterday's fish in the house of an otter."

(Hindoo Proverb.)

BUT

It is not too late to give a book for XMAS.

RUGGER.
By W. W. Wakefield & H. P. Marshall **15s. 0d.**

LAWRENCE AND THE ARABS.
By Robert Graves. **7s. 6d.**

WAR BIRDS.
The Diary of an Unknown Aviator. **7s. 6d.**

NOCTURNE MILITAIRE.
By E. W. Springs. **7s. 6d.**

WE,—PILOT AND PLANE.
By C. Lindbergh. **7s. 6d.**

THE OLD FLYING DAYS.
By C. C. Turner. **£1 5s. 0d.**

THE CONQUEST OF THE AIR.
By C. L. M. Brown. **2s. 6d.**

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comment "present condition is bad, as all but two of her twenty-four boilers are out of action and there are two unrepaired holes below the waterline." Other comments on Turkish ships are in the same strain, such as "steering-gear defective," "in need of refit," "boilers in bad condition," etc. It is such relatively important remarks that give the volume an air of individuality.

Information concerning the Russian Navy is fairly complete and its study reveals the comparatively unimportant point that there are three *Lenins* and three *Trotskys* among the heterogeneous collection of socialistically-named vessels.

It seems regrettable that the feature, introduced after the war, of showing aerial views of the more important ships has been discontinued and it would be interesting to know whether there were reasons other than economy for this.

The only possible grouse one can have against the book is its awkward size. Known as Oblong Foolscap, it is one of those that require a special table on which to examine it, a special bookshelf in which to store it (it is too valuable to be left lying about) and a special temper with which to overcome its efforts to break its back or to twist itself out of one's hands onto the floor.

Whether its uncommon shape is responsible for the bad cutting of the pages and alignment of blocks one does not know, but on more than one page of the review copy a line of reading matter has been cut off. Some of the blocks have been badly reproduced. The frontispiece, the original of which one knows to be an excellent photograph, is bad, and speaking personally one would have much rather have seen one of Dr. Parkes' excellent paintings reproduced here.

However, two guineas is a very cheap fee for a course in the World's Navies and one can think of no other source, or sources, wherein one could obtain a tenth of the information contained in Jane's. Although very few people may ever want to know the fuel capacity of a Siamese C.M.B., the diving limit of a Latvian submarine or the armament of a Cuban cruiser, the fact that information of this nature is included bears out the claims for completeness with which the book is introduced.—L. B.

"RUGGER."

["Rugger." By W. W. Wakefield and H. P. Marshall. 490 pages. 4 photographs, drawings by F. G. Moorsom, cartoons by Mel. Index. Longmans, Green and Co. Ltd. 15s. net. Supplied by The Aeroplane Book Dept.]

"Rugger" is three books in one volume. Book I consists of Rugger Reminiscences by W. W. Wakefield from his schooldays to the present time. Book II is a comprehensive study of the theory and practice of Rugby football by H. P. Marshall. Part III consists of the various tables of International games, lists of international players, and a list of vital facts in the history of Rugby football.

Mr. Wakefield's reminiscences will be very interesting to all followers of Rugger, although they cover a very short period in the history of the game. In these days it seems that nothing will prevent performers of all kinds, from Bishops to infant-tennis-prodigies, from rushing into print and while, in Mr. Wakefield's case, the book has justified itself, one cannot help feeling that though he is undoubtedly a great forward he is not a great author.

Mr. H. P. Marshall's part of the book is worth careful study by Rugger players of every kind because it is so complete and careful study of the rules and practice of the game.

The various information in the last part of this volume is very useful for historical and reference purposes.—C. M. MCA.

FOR CHILDREN, YOUNG AND OLD.

Those who are compelled to suffer from the affliction of mechanically-minded children during the Christmas Holidays, will find much relief from their labours in the Christmas Double Number of *English and Amateur Mechanics*.

Among the numerous attractive things in it are illustrated descriptions of Drawing-room Tricks and Illusions; Puzzle Crosses, Cubes and Magic Boxes; Tricks with Wood, String and Wire; Christmas Toy Making; Making Christmas Gifts in Woodwork and Cane; Ingenious Toys and Novelties from the Shops; Home Magic and Conjuring Tricks; Photographic and Chemical Tricks; Stunts with the Gramophone; Useful Gift Articles from the Lathe; Tricks in Wireless Reception.

The editor is Mr. A. W. Judge, who once nearly became a scientist, and wrote several valuable books on aeronautics. But he has found that being a practical mechanic is a better job, and more useful to the community.

NOT GUILTY.

A note from Elliott Springs, the author of *Nocturne Militaire*, and the Editor of *War Birds*, expressing his appreciation of The Aeroplane's criticism of his book, denies the impeachment that he was a professional journalist before the War. He says that he never was. He left college at the age of twenty to enlist. He never tried to write for publication until 1925, when he wrote a novel, which was a fizzle.

That accounts for his writing so well. Ever since reading his book one has doubted whether any professional journalist could possibly use the British language so flexibly as he does. We all hope that he will do more work of equal merit.—C. G. G.

THE FLYING CLUBS.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, W. 1.]

Report for week ending Dec. 11.

Flying Time 8 hr. 30 min. *Instruction* 2 hr. 45 min. *Soloists* 5 hr. 25 min. *Passengers* 20 min. *Instruction.—With Mr. F. G. M. Sparks*—H. M. Samuelson, Colonel Hume, Rich Hayes, Miss Wilson, H. Kennedy. *With Mr. S. L. F. St. Barbe*—J. A. Simson, J. Barros, A. J. Mulder. *Soloists.*—H. M. Samuelson, R. Saunders Clark, C. E. Murrell, J. J. Hofer, W. Hay, G. H. Craig, Major Beaumont, A. R. Ogston, H. Petre. *Passengers.—With Mr. S. L. F. St. Barbe*—Mrs. Carberry.

Christmas Closing.—The Club will be closed down on the evening of Thursday, Dec. 22, and will re-open on the morning of Thursday, Dec. 29.

The Lancashire Aero Club.

[Sec., Woodford Aerodrome, near Stockport.]

Report for fortnight ending Dec. 10.

Flying Time 26 hr. 25 min. *Instruction* 12 hr. 25 min. *Soloists* 8 hr. 15 min. *Passengers* 4 hr. *Tests* 1 hr. 45 min. *Instruction.—With Mr. Brown*—Messrs. Cohen, Heath, Tweedale, Browning, Hall, Chart, Eills, Gort, Allott, Barlow, Brooking, Crosthwaite, Weale, Pattrieoux, Miss Hill and Miss Baerlein. *Soloists (under instruction).*—Messrs. Ruddy and Browning. *Pilots.*—Messrs. Slater, Rowley, Meads, Costa, Nelson, Michelson, Crosthwaite, Twemlow, and Lacayo. *Passengers.—With Mr. Lacayo—Messrs.* Hartley and Mayall. *With Mr. Michelson*—Miss Cotsworth. *With Mr. Twemlow*—Messrs. E. Twemlow, Allott, and Hale. *With Mr. Brown*—Mr. Leeming. *With Mr. Scholes*—Messrs. Fletcher, Crabtree, Etchells and Shackleton.

Notes.—We have no humorous comments to offer this week, because there is a strong North-East wind blowing with great persistence, and the writer has never yet been able to discover anything in the least humorous about a strong North-East wind. Mr. Browning did his first solo this week and is coming on well. About next May, when we may expect a temporary break in the clouds, it is hoped that he will get a chance of doing his height test. To give the staff a holiday flying will cease from Friday evening, Dec. 23, and will recommence (weather permitting) on Saturday morning, the 31st.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Sunday, Dec. 11.

Flying Time 15 hr. 25 min. *Soloists (Training)* 1 hr. 35 min. *"A" Pilots* 5 hr. 55 min. *Passengers* 25 min. *Tests* 10 min. *Instruction.—With Mr. Parkinson*—Miss Rambaut, Messrs. R. J. Dickinson, Stobie, Hayton, Edmundson, Griffiths, Horn, V. Heaton, and Dr. Alderson. *Solo Instruction.*—Mr. De Pledge, Mr. Stobie. *"A" Pilots.*—Miss Leathart, Mr. D. Wilson, Mr. C. E. Shaw, Mr. F. L. Turnbull, Mr. C. Thompson, Mr. R. N. Thompson, Mrs. Heslop, Mr. Baxter Ellis, Mr. A. Bell. *Passengers.—With Mrs. Heslop*—Mr. C. Thompson. *With Mr. C. Thompson*—Mr. Luckman, Mrs. Heslop. *With Mr. Baxter Ellis*—Mr. Luckman, Mr. Easey.

Notes.—The fog which has lasted for almost three weeks without abatement, and with only slight variations of density, still persists. Mr. Rimmer and Mr. Nash, of the Berkshire Aviation Tours, called at the Aerodrome on Friday and, owing to the bad visibility, which had been becoming gradually worse during their journey from Berwick, they had to remain overnight.

The Yorkshire Aeroplane Club.

[Sec.: D. M. N. Coles, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Dec. 10.

Flying Time 8 hr. 5 min. *Instruction* 4 hr. 45 min. *Soloists* 2 hr. 55 min. *Passengers* 1 hr. 25 min. *Instruction.—With Mr. Beck*—Miss Watson, Messrs. Clayton, G. Thomson, Hepworth. *With Mr. Stockbridge*—Mr. Ostler. *With Mr. Carter*—Mr. Evans. *Solo Instruction.*—Mr. Ellison. *"A" Pilots.*—Messrs. Thomson, Norway, Wood. *Passengers.—With Mr. Beck*—Mr. Beazer. *With Mr. Wood*—Mr. Clayton. *With Mr. Thomson*—Mr. Beazer.

The Hampshire Aeroplane Club.

[Sec.: H. J. Harrington, Hamble Aerodrome, Southampton.]

Report for week ending Dec. 8.

Flying Time 4 hr. 20 min. *Instruction* 2 hr. 15 min. *Soloists* 1 hr. 40 min. *Test Flights* 25 min. *Instruction.—With Flt. Lt. Thomson*—Capt. Molyneux, Lieut. Graham, R.N., Capt. Kirby, R.N.R., Mr. Cripps, Mr. Hall and Mr. Bernry. *"A" Pilot.*—Lieut. Graham. *Soloists under Instruction.*—Capt. Molyneux, Mr. Cripps, Mr. Fawkes, and Mr. Hall.

Notes.—Fog and rain prevented flying practically all the week, so the opportunity was taken to change the engine of G-EBOH. On Wednesday, Mr. Hall, who is only sixteen years of age, made an excellent first solo flight after six hours' dual. He flew his second solo on Friday equally well. Unfortunately for this Club, he is sailing for South Africa on the 15th of this month, but we trust our loss of such a promising pupil will be to he advantage of aviation in the Colony. [N.B. Overseas Dominion.—Ed.]

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Dec. 11.

Flying Time 10 hr. 30 min. *Instruction.—With Mr. Lines*—Messrs. N. Paul, N. Brett, R. F. Potter, G. E. Barker, G. F. Surtees, H. Barratt, G. F. Meagre. *Passengers.*—Miss O'Keiff, Miss Scott, Mr. J. F. Betts, Mr. Creasy. *Soloists.*—Messrs. W. A. Ramsay, W. P. Cubitt, C. A. Rea, H. Pank, R. Harmer.

Notes.—The results in response to one's application for books to start a Library are most encouraging; after three expectant weeks we have been presented with a "Free specimen copy of Old Moore's Almanack." Now the pace is set, perhaps we shall see, ere long, volumes of books rolling in.

Those members who see noble Airmen refreshing themselves with alcoholic beverage, at the Club House, will please refer to a page in the latter part of the above, wherein they will see the folly of such ways. A fine pictorial episode is presented on "How Drinkers are Saved."



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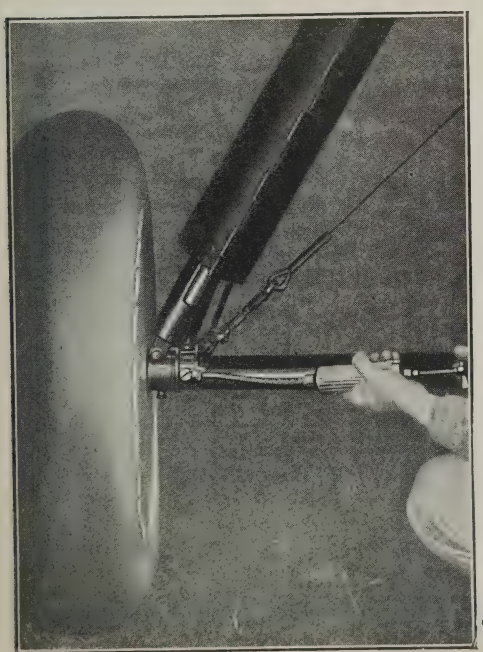
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The Suffolk Aeroplane Club.

[Sec.: Courtney N Prentice, Hazeldell, Stowmarket.]

Report for week ending Dec. 11.

Flying Time 5 hr. 35 min. *Instruction.—With Mr. Lowdell*—H. Billinton, G. Hutley, N. Creasy. *With Mr. C. N. Prentice*—Miss Sylvia Edwards, N. Creasy, F. Jolly, S. Schofield, K. Peck, G. Hutley, T. Marriage, F. Verny, R. Brown. *Passenger.—With Mr. Prentice*—Mr. Wyatt. *Soloists.*—Dr. Jas. Sleigh, S. Schofield, N. Creasy.

Notes.—Our Public Appeal for a second machine and hangar was launched this week and we have to date received £254.

The furnishing of our Club House is almost complete. All the furniture has been generously given by the members. Our President, The Hon. Lady Bailey, has given four comfortable arm-chairs with cushions and Mr. and Mrs. H. Billington have given a set of four extremely nice oak tables, Mr. Schofield a wheel-back chair, Mr. and Mrs. F. Clifton curtains, Mr. and Mrs. C. N. Prentice gramophone and records, gate-leg table and wheel-back chair.

[Is a wheel-back chair one of those invalid affairs in which crashed aviators are wheeled around? As gifts they seem ominous.—Ed.]

The Bristol and Wessex Aeroplane Club Ltd.

[Sec.: Col. G. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Dec. 10.

Flying Time 5 hr. 10 min. *Instruction* 3 hr. 20 min. *Soloists* 1 hr. 50 min. *Instruction.—With Mr. Bartlett*—Messrs. Hon. B. L. Bathurst, A. E. Arnold, F. J. Farr, B. H. Bryan, A. E. Stephens. *Soloists (under Instruction).*—Messrs. Hon. H. C. H. Bathurst, A. H. Downes-Shaw. *"A" Pilots.*—Mr. C. E. Pitman.

Notes.—Flying was only possible on Sunday and Saturday. The Club will close for the Christmas Holidays on Dec. 22 and will re-open on Dec. 31.

The East Kent Flying Club.

On Dec. 5, Air Vice-Marshal Sir Sefton Brancker arrived at Lympne in Moth G-EBQH with Mr. Hubert Broad to meet the Committee and Members of the E.K.F.C. Sir Sefton was due at 12 noon, but he arrived an hour earlier. This was a pity as the E.K.F.C. had arranged, by the courtesy of Sq. Ldr. Park, for an escort of nine Grebes of No. 25 (Fighter) Squadron to meet him en route. Two of these were out early and duly took station on each side until the D.C.A. landed. He was met by Messrs. Little and R. Dallas Brett and consulted with them and Commander Deacon, the C.A.T.O., for about an hour on the details of the Club's organisation. He was most considerate and helpful.

Mr. Broad took up Mr. Little and Councillor A. Dallas Brett and demonstrated the remarkable effect of the Handley Page Automatic Slot and Aileron control which was fitted to the Moth. It appeared to be impossible for the machine to spin after it had been stalled in spite of Mr. Broad's efforts to do so.

Sir Sefton was entertained at lunch at the Hotel Imperial, Hythe, by the Committee. Amongst the guests were Sq. Ldr. Park, who has kindly consented to serve upon the Committee of the Club, Mr. Broad, Flt. Lt. Smith and Cdr. Deacon, C.A.T.O. The members present were the Chairman, Major F. W. Butler, M.C., Dr. Whitehead Reid, and Messrs. Braddell, A. Dallas Brett, Little, Baker, Lewis Evernden, Farraday and R. Dallas Brett.

The Chairman thanked Sir Sefton for visiting the Club and the Air Vice-Marshal in reply wished the Club the best of luck and stated that the Ministry hoped that when the subsidy ceased in three years' time they would have a series of clubs all over the country in a flourishing condition and that the Ministry could hand these over to their proprietors and say "Now you must go ahead and prosper on your own account. You should be proud of your enterprise as pioneers of a great movement and now you must keep it going."

The Air Ministry hoped that the Flying Club movement was the beginning of a great wave of aviation which would swoop over the country. The Ministry looked to the County families, to the wealthy men in each county to come forward and lead that movement which was an intensely patriotic movement and as such deserved to be supported by the responsible people in the country. He hoped that the wealthy people of East Kent would come forward in a patriotic spirit and support the Club and lead the way in this great spread of aviation which was about to commence in England.

The party then returned to Lympne where Mr. Broad gave a further demonstration of the slotted wing with two of our lady members, Mrs. Twaites and Mrs. Marie Coleman, as passengers.

Tees-side Aero Club.

Activities on Tees-side are proceeding very slowly at present. At our second committee meeting on Dec. 8, our President (Dr. T. M. Body) stated that to start the Club on a sound foundation on the lines of the London Club would require a capital of £3,000. Expenses would be at the rate of £3,000 a year, but most of this would be met by charges for flying. It would be possible to launch a Club on a smaller scale, however, for much less.

It was decided to continue as an unregistered club for the present, but later the Committee will consider the question of forming a limited company, with or without share capital. A set of rules has been drafted, and is to be discussed at the next meeting.

A banking account, in the Club's name, has been opened with Barclays Bank Ltd., Middlesbrough. Our President, Treasurer and one of the Secretaries to sign cheques.

It was suggested that we should call a public meeting shortly and ask all our prospective members (total 160) to pay their first year's subscriptions, but this was overruled as we have nothing definite to offer them at present. Meanwhile, our Committee are trying to influence their wealthy friends into subscribing towards the Club.

The Indian Flying Clubs.

On Nov. 23 the Delhi Light Aeroplane Club was formed and further Clubs are in process of immediate formation in Calcutta and Allahabad.

The Aero Club of India, which was established about nine months ago, will act in a similar capacity towards the Indian Flying Clubs as the Royal Aero Club does towards the British Clubs and it is certain that it will stipulate that all the Indian Clubs should use the same type of aeroplane so as to facilitate service and supply of spares.

[This decision, if ever reached, is simply silly. Why should a club at Delhi be forced to use the same machines as one at Karachi or Bombay? The more different types are used the more the members of the clubs are bound to learn about flying in general.—C. G. G.]

The choice of equipment has not yet been settled and it is not expected that it will be until Government assistance, which has been promised, is forthcoming early in the new year.

It is rumoured that the Maharajahs of Patiala and Jodhpur are contemplating starting Flying Clubs of their own in their respective States.

[If all this goes through there will be the makings of quite a nice little War in the Air when India breaks up, and the States start out on a career of conquest, after a Government of the Indians by the Indians for the Indians.—C. G. G.]

The Aero Club of Kenya.

The Aero Club of Kenya, which was formed on July 31, 1927, now has 145 members and the rapid growth of the Club has necessitated the acquisition of temporary Club accommodation. It has applied for affiliation to the Royal Aero Club and for representation of the *Fédération Aéronautiques Internationale* in the British East African Dependencies. It has obtained the recognition of the Air Ministry, from whom a promise of all possible assistance has been received.

Application has been made to the Government of the Colony for the grant of a light aeroplane and a suitable site for the establishment of a properly equipped aerodrome.

The Club has proposed that it should encourage and assist in the formation of an Air Defence Force by obtaining as many members as possible and providing them with the means of training and practice as pilots, observers, engineers and riggers, to be placed at the disposal of the Government in an emergency.

FOR WOULD-BE PILOTS.

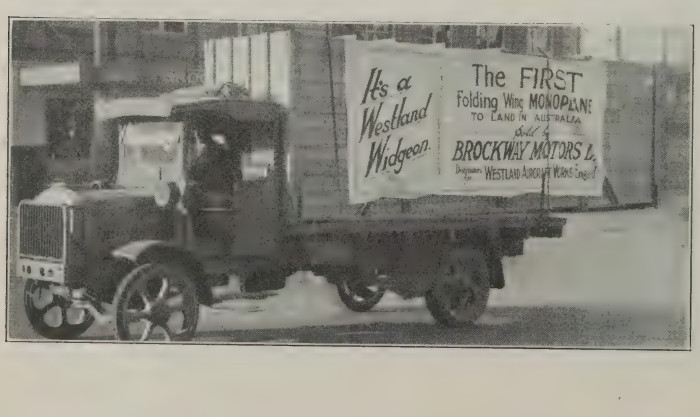
Some three weeks ago Mr. John Leeming of the Lancashire Aero Club, put on the market a handbook entitled "Pilots' 'A' Licence," to save himself the trouble of answering questions from people who are hoping some day to be licensed aviators. The handbook has already proved that it fills a definite need, something close on 500 copies having been sold before it has been offered to the public for a fortnight.

The edition, which was produced entirely at Mr. Leeming's personal expense, is now nearly sold out, and those who want to get a copy had better write for it at once.

The booklet is written in simple language and gives all the information that the would-be pilot can possibly want as to what he has to do to qualify for an Air Ministry "A" licence permitting him to fly wherever he likes and to carry passengers,—so long as he does not do so for hire or reward.

After reading Mr. Leeming's book there is no excuse for a candidate for an "A" licence not to know what kind of examination he has got to pass and what kind of questions he has got to answer.

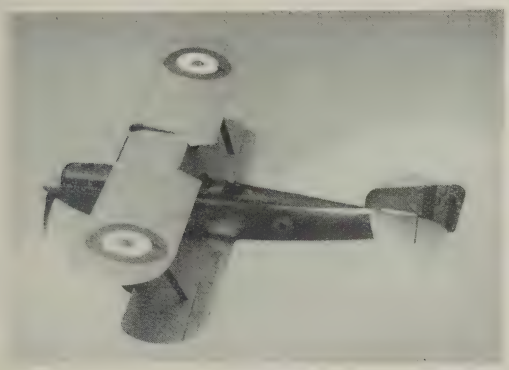
Copies of the book can be had post free from the Book Department of The Aeroplane, 14, Bream's Buildings, E.C.4, at 2s. each, post free.



THE WESTLAND WIDGEON IN AUSTRALIA.—Here is seen the arrival of the first Widgeon, which won the Speed Cup in the race for the Queensland Aerial Derby. Brockway Motors Ltd., who hold the Westland agency, thus made a good advertisement out of the first folding-wing monoplane in Australia, before sending it up to Brisbane to advertise itself still better by putting up a speed of 113 m.p.h.

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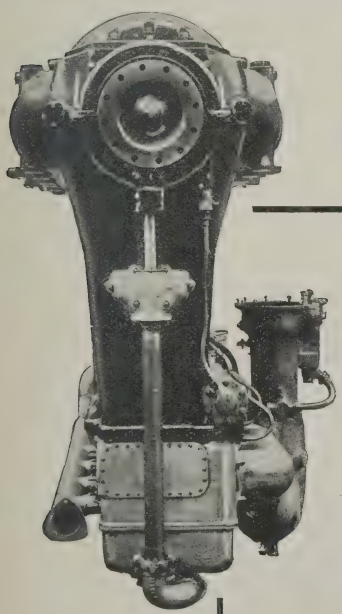
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ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 10; Tuesday, 17; Wednesday, 2; Thursday, 4; Friday, 7; Saturday, 6; Sunday, 1.

IMPERIAL AIRWAYS LTD. :
London — Paris — Zurich; London — Ostend — Brussels — Cologne : Machines 19, passengers 97, freight 7 tons.

AIR UNION :
Paris—London : Machines 11, passengers 32, freight 13½ tons

K.L.M. :
Amsterdam—Rotterdam—London : Machines 10, passengers 23, freight 3½ tons.

SABENA :
Brussels—London : Machines 4, passengers 3.

DEUTSCHE LUFTHANSA AG. :
Amsterdam—London : Machines 3, passengers 4.

PRIVATE :
Machines 0, passengers 0.

Total number of trips by British Machines 19, carrying 97 passengers. Foreign Machines, 28, carrying 62 passengers.

COMPARATIVE FIGURES.

Week ending Dec. 11 :
Machines, 47; Passengers 159; Crews, 81; Total personnel, 240.
Corresponding week, 1926 :
Machines, 40; Passengers, 123; Crews, 47; Total personnel, 170.
Corresponding week, 1925 :
Machines, 63; Passengers, 147; Crews, 71; Total personnel, 218.
Corresponding week, 1924 :
Machines, 31; Passengers, 83; Crews, 37; Total personnel, 120.
Corresponding week, 1923 :
Machines, 43; Passengers, 45; Crews, 73; Total personnel, 118.
Corresponding week, 1922 :
Machines, 36; Passengers, 123; Crews, 70; Total personnel, 193.
Corresponding week, 1921 :
Machines, 11; Passengers, 20; Crews, 19; Total personnel, 39.
Corresponding week, 1920 :
Machines, 11; Passengers, 14; Crews, 12; Total personnel, 26.

Croydon Notes.

All modern passenger-carrying aeroplanes are fitted with cabin-heating devices, but those who have travelled by air in cold weather will agree that few of these devices serve their purpose properly. Imperial Airways Ltd. have long realised this defect and have made satisfactory experiments towards remedying it.

So far, in the majority of British machines, warm air has been taken from a muff round one or more engine exhaust-pipes, and passed into the front end of the cabin on the assumption that this air would drift down to the back. Tests show that it does nothing of the sort, but leaks out at the front *via* the pilot's cockpit, where there is always a reduced air pressure, and leaves the greater portion of the cabin unwarmed.

A Handley Page W.10 has for some time been fitted with a warming gear, designed by Imperial Airways, which overcomes this difficulty. The warmed air enters the cabin at the rear, and then drifts forwards under the influence of the low pressure in the cockpit and effectively warms the whole cabin, even when cabin windows are open. Special care has been taken to place the air-intake of the heating-muffs well in the slip-stream where no engine oil or vapours are likely to be found, and there is consequently no engine smell in the cabin. This arrangement has been found to be a great improvement on earlier ones and it will be fitted to all Imperial machines as soon as possible.

Apropos the probable date when the present buildings at Croydon will be vacated, the various tenants have now received notice to quit on Dec. 31. This notice has been accepted by most of the tenants subject to alternative accommodation being then available—which it seems unlikely to be.

The only representatives of Croydon Aerodrome as such who appear to have been invited to the official opening of the Plough Lane by-pass on Friday last was Major Richards, the C.A.T.O. at Croydon. This in itself seems a little thoughtless, but what appears even more so is the fact that none of the Air Ministry's tenants or their employees had received on Friday any notification of the arrangements which would be made to give them access to their place of business after the closing of Plough Lane on Saturday morning.

For those who come from the North there will be no change, but as the section of Plough Lane South of the Aerodrome buildings is to be closed and filled in, those who approach the Aerodrome from the South may find that they have to go right round by Forester's Drive into the Sutton Road and back up the Northern end of Plough Lane—a detour of well over a mile. Presumably methods of avoiding this will be found, but the matter ought to have been considered and arrangements made and notified in advance.—W. H. S.

OPENING THE PLOUGH LANE BY-PASS.

The official opening of Forester's Drive—the new road to replace the portion of Plough Lane through Croydon Aerodrome—took place with due ceremony on Friday, Dec. 9.

Sir Samuel Hoare, Bt., G.B.E., C.M.G., M.P., Secretary of State for Air, accompanied by the Lady Maud Hoare, arrived at the junction of the new road and Plough Lane, north of the aerodrome, punctually at half-past three. They were met by Mr. Bertram, C.B.E., Deputy Direction of Civil Aviation, Mr. G. I. Hutchings, J.P., Chairman of the Beddington and Wallington Urban District Council; Mr. E. J. Holland, D.L., J.P., Chairman of the Surrey County Council; representatives of the Ministry of Transport, the road contractor, and other interested parties.

Expressing a hope that the new road would not only help in the development of aviation but would also add to the amenities of the district, Sir Samuel Hoare asked Lady Maud to sever the tape closing the road and to declare it open.

This done, the Secretary of State formally handed the road over to the Chairman of the local Council. Under the terms of the Act of Parliament authorising the closing of Plough Lane, the Air Ministry is required to complete the new road to the satisfaction of the Council, and therefore, in taking over the road, Mr. Hitchings handed to Sir Samuel Hoare a certificate that the road was built to their satisfaction.

Thereafter the assembled company proceeded to the Wallington end of Forester's Drive, where a second tape was severed by the Lady Maud Hoare, and returned to the Trust House to tea.—W. H. S.

A STRANGE ACCIDENT.

M. Corbu and his mechanic Lacoste were killed at Le Bourget on Dec. 11 while testing a Farman 73 biplane (420 h.p. Jupiter engine). This machine, one of the oldest in the service of the Lignes Aériennes Farman, had recently had its original 300 h.p. Renault engine replaced by a 420 h.p. Jupiter, and was used for short passenger flights.

The pilot and mechanic were testing some carburetter adjustments, and for some unknown reason M. Corbu started doing aerobatics. At the top of the second loop the mechanic, who was in the cabin, burst through the fabric roof and fell like a stone. The pilot failed to recover from this position, and the machine, after falling some distance, broke to pieces in the air. Wreckage of the machine was scattered over an area of 200 yards.

AIR TRAFFIC IN CZECHOSLOVAKIA.

Statistics issued by the Czechoslovakian State Air Lines for their traffic results up to Oct. 31, 1927, show a very remarkable increase in traffic and an equally remarkable improvement in regularity for the current year.

In 1924 the total flights were 649, the kilometres flown 207,344, the passengers carried 426, and the luggage, goods and mails carried 2,148 kg. 84.5 per cent. of scheduled flights were completed.

In 1925 the total flights were 870, kilometres flown 278,300, passengers 604, total freight 18,500 kg., and the regularity 81.6 per cent.

In 1926 the total flights were 1,082, kilometres flown 245,284, passengers 1,703, total freight 12,194 kg., and the regularity 87.46 per cent.

For the year 1927 the total flights were 4,869, the kilometres flown 1,146,206, passengers 6,966, freight 38,445 kg., and the regularity 96 per cent.

These lines operate only between Mar. 15 and Oct. 31 in each year.

A NEW POWER IN THE AIR.

An announcement has been made in Chicago of the election of Earle H. Reynolds of Chicago as President of National Air Transport, Inc., in place of Howard E. Coffin, the retiring president.

Mr. Reynolds is president of the Peoples Trust and Savings Bank of Chicago and is the son of George M. Reynolds,

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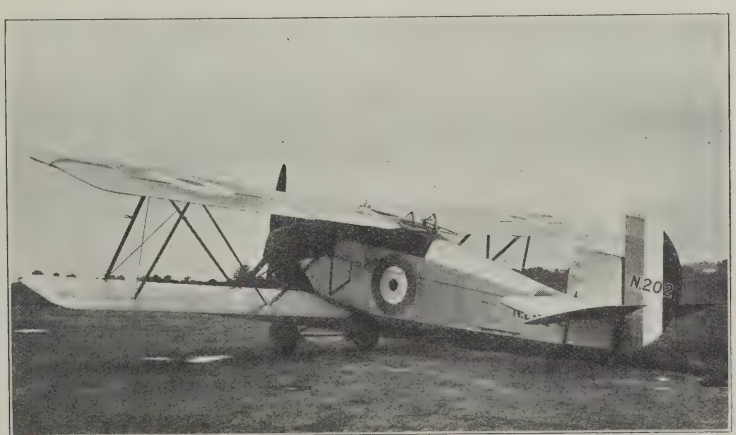
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KINDLY MENTION "THE AEROPLANE" WHEN CORRESPONDING WITH ADVERTISERS.

chairman of the board of the Continental and Commercial National Bank. He has been a director in National Air Transport, Inc., since its organisation in 1925.

Mr. Coffin has been President of the company since its organisation. During his term of office, National Air Transport has grown from a 2,000 mile a day flying organisation to one operating 5,000 miles each twenty-four hours. Its aeroplanes have flown approximately one and one-half million miles without serious accident, without injury to personnel, or without loss of any cargo. Mr. Coffin will retain an active interest in the N.A.T.

National Air Transport operates the air mail and air express service between Chicago, Cleveland and New York and Chicago, Moline, St. Joseph, Kansas City, Wichita, Ponca City, Oklahoma City, Fort Worth and Dallas, Texas. It has been operating the air mail line between Chicago and Dallas since May 12, 1926, and took over the New York—Cleveland—Chicago air mail service from the Government on Sept. 1, last. On the same date, it also started to carry air express under contract with the American Railway Express Company.

THE AUSTRALIAN AIRCRAFT TRADERS' ASSOCIATION.

Late this Summer there was formed in Melbourne the Australian Aircraft Traders' Association with offices at Peacock House, 486-490, Bourke Street.

Membership of the A.A.T.A. is restricted to individuals, firms or corporations carrying on business or acting as principals or manufacturers' representatives in the aircraft industry.

The main objects of the Association are briefly as follows :—

To encourage, develop and extend the use of aircraft, to promote and protect the interests of all firms or corporations engaged in the aircraft industry in Australia, to convene meetings for the discussion of the needs of, and matters arising from, anything connected with the industry.

To encourage invention and scientific research and development of constructional ideas, to originate and promote improvements in the law and to support or oppose alterations therein, to effect improvements in administration and, for these purposes to petition Parliament to take such other steps as may be deemed expedient.

To afford advice to and diffuse information among its members, to improve and elevate the technical knowledge of members engaged in the aircraft industry, to promote just and honourable practice in the conduct of business and to suppress malpractice.

To arrange and promote the adoption of equitable forms of contracts and documents used in the aircraft industry, to encourage the settlements of disputes by arbitration, and to nominate arbitrators and umpires on such terms and in such cases as may seem expedient and to do all other things incidental or conductive to the attainment of the above objects or any one of them.

The following are its principal officers :—

President of the Association and Chairman of the Council: Major H. Turner Shaw, O.B.E. (Shaw-Ross Aviation and Engineering Co., Melbourne). Council: Major Norman Brearley, D.S.O., M.C., A.F.C. (West Australian Airways Ltd., Perth, W.A.), Major Hereward de Havilland, D.S.O. (The De Havilland Aircraft Propriety Ltd., Melbourne), Mr. Hudson Fysh, D.F.C. (Queensland and Northern Territory Aerial Services Ltd., Longreach), Capt. G. C. Matthews, A.F.C. (Matthews' Aviation, Melbourne), Mr. P. J. Pratt (Aircraft Manufacturing and Supply Co. of Australia, Geelong), and Sir Keith Smith, K.B.E. (Australian representative of Vickers Ltd., Sydney). Mr. E. J. Hart, Editor and sole Proprietor of *Aircraft*, was appointed Secretary and Publicity Manager.

This Association has already obtained official recognition from the Commonwealth Air Board, the Controller of Civil Aviation and the Commonwealth Tariff Board. One of the earliest direct results of its representations has been the removal of the duty on aircraft components from Great Britain, which was imposed early this year. Money which was paid to the Customs in this connection has since been remitted.

LONG-DISTANCE LUBRICATION.

A letter of considerable interest to engine-designers and would-be long-distance aviators alike has been received from Tecalemit Ltd., whose system of lubrication is recognised as about the most effective in the World. This reads as follows :—

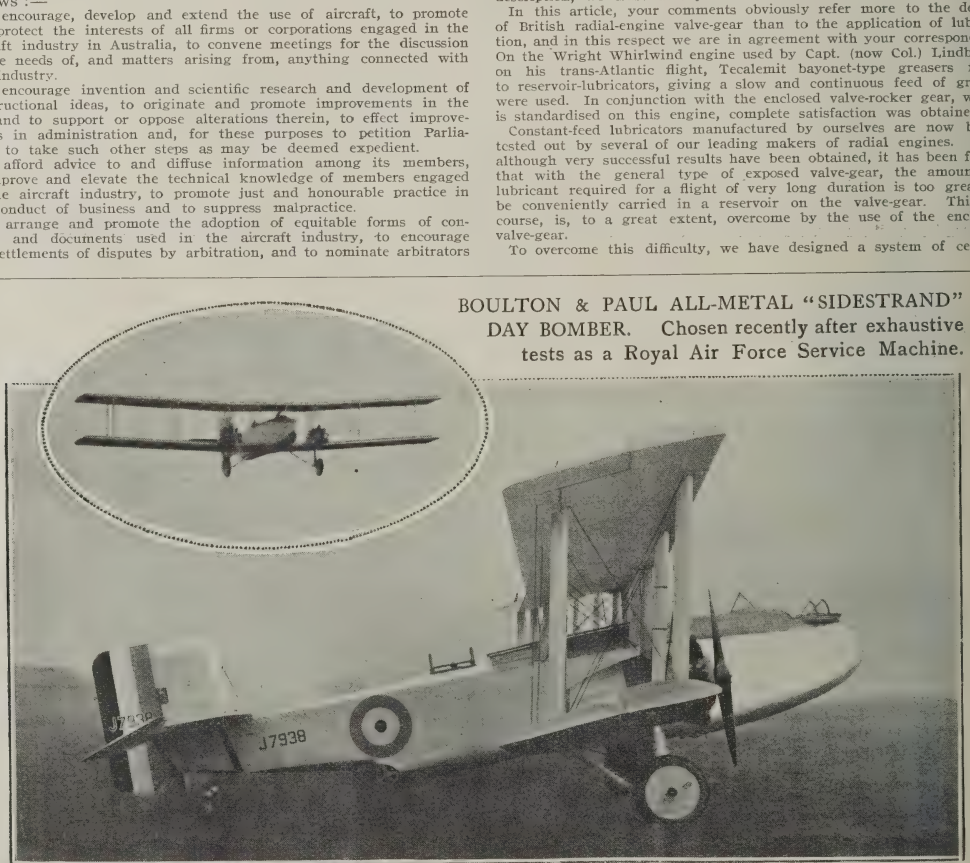
We have read with much interest the Editorial in your issue of the 7th December, under the heading: "A Matter of Lubrication," and as pioneers of grease-gun and high-pressure lubrication of every description, we trust that you will make known our views.

In this article, your comments obviously refer more to the design of British radial-engine valve-gear than to the application of lubrication, and in this respect we are in agreement with your correspondent. On the Wright Whirlwind engine used by Capt. (now Col.) Lindbergh on his trans-Atlantic flight, Tecalemit bayonet-type greasers fitted to reservoir-lubricators, giving a slow and continuous feed of grease, were used. In conjunction with the enclosed valve-rocker gear, which is standardised on this engine, complete satisfaction was obtained.

Constant-feed lubricators manufactured by ourselves are now being tested out by several of our leading makers of radial engines. And, although very successful results have been obtained, it has been found that with the general type of exposed valve-gear, the amount of lubricant required for a flight of very long duration is too great to be conveniently carried in a reservoir on the valve-gear. This, of course, is, to a great extent, overcome by the use of the enclosed valve-gear.

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lubrication specially for this purpose, whereby the lubricant is carried in a small tank in the cock-pit and fed to each set of valve-rockers, either automatically or by a pump at the will of the pilot

We shall be only too pleased to explain this system to anyone who is interested.

In conclusion, we attach herewith No. 1 and No. 2 of our journal, the *Tecalemit News*, which we trust you will accept with our compliments. On page 6 of the first issue, you will notice the photograph of Col. Lindbergh's Whirlwind engine fitted with the feed plugs referred to.

(Signed) R. A. CHALMERS.

This will be good news to those who feel unhappy about naked valve-rockers. The Tecalemit people are always ready to meet an emergency,—the more so as Mr. Robert Chalmers is one of the World's pioneers of aero-engine design. The *Tecalemit News* shows well the system to which Mr. Chalmers refers. Copies can be had post free for the asking from 10, Little Portland Street, W.1.

A JAPANESE AIRSHIP ACCIDENT.

The Japanese Naval Airship N.3, while taking part in naval manœuvres, was forced down in squally weather on an island off the Izu peninsula. Before it could be secured it was blown out to sea, where it caught fire, and was completely destroyed. The crew were rescued, but one member was seriously injured.

The N.3 was a sister ship of the *Norge* and was only acquired by the Japanese Government from Italy this year.

DISGRACED.

M. Jean Callizo, who owing to fraud was disqualified from holding the World's Height Record by the French Aero Club, has had his name erased from the roll of the *Légion d'Honneur*.

PERSONAL NOTICES.

DEATHS.

ROWE.—On Dec. 10, Alexander Meredith Rowe, Reserve of Air Force Officers, son of B. Meredith Rowe, M.R.C.S., J.P., and Mrs. Meredith Rowe, 35, Compton Terrace, Highbury.

Mr. Rowe joined the R.A.F. with a S.S. comn. in August, 1922, and underwent a course of flying instruction at No. 5 F.T.S. followed by a short course with No. 7 (Bombing) Squadron at Bircham Newton. In November, 1923, he was posted to No. 70 (Bombing) Sqadron, 'Iraq, and in November, 1925, he was posted to No. 6 Armoured Car Coy., 'Iraq. He was transferred to the Reserve on Aug. 21, 1926.

SHERLOCK.—On Dec. 5, at 13, Langside Avenue, Putney, S.W.15, James Sherlock, late War Office and Air Ministry, aged 59.

BIRTH.

BOWEN-BUSCARLET.—On Dec. 7, at the Infirmary, Stamford, to Violet, wife of Flt. Lt. W. A. B. Bowen-Buscarlet, R.A.F.—a daughter.



Schneider Cup

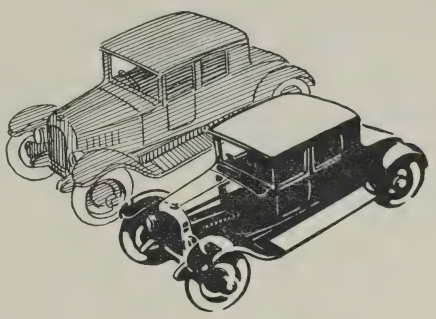
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TO ADVERTISERS PERSONALLY.—There is interest to you in this extract from a letter from a Canadian aviator in the United States :—

I read each issue of The Aeroplane and frankly am of the opinion that it is by far the best publication covering aeronautics which is obtainable in this country. I have depended upon it for some time now to keep me versed in aeronautical news from Great Britain.

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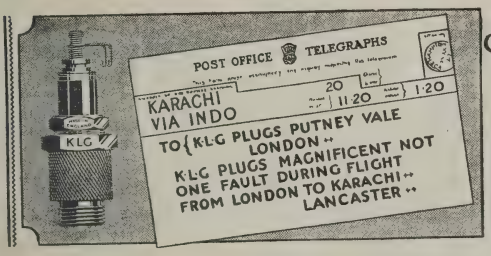
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"THE WHITE ROAD WESTWARD."

(John Masefield.)



A REMINISCENCE:—A Westland Limousine (Napier Engine), with an attendant dog-team, during the early survey work done by Mr. Alan Butler and Mr. Sidney Cotton in Newfoundland in 1923



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VOL. XXXIII. No. 25.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1. Telephone: Gerrard 5407.
Telegraphic Address: "Aileron, London."
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4. Telephone: Holborn 0426.

Subscription Rates, post free: Home 3 months, 7s. 6d.; 6 months, 15s.; 12 months, 30s. Abroad, 3 months, 8s. 9d.; 6 months, 17s. 6d.; 12 months, 35s. Canada, 1 Year, 8$. U.S.A., 1 Year, $8.50c.

ON TROPHY OR TRADE.

Critics of THE AEROPLANE newspaper have a habit of reproaching it for changing its policy so often and charge it with taking quite opposite views on the same subject at different times. Such critics forget the very sound adage that "Wise men change their minds and fools don't." Also they forget that circumstances change and that a policy which may be very good at one time may be very bad at another.

The British Empire gets along very well by changing its Government every now and then and consequently changing its entire policy. And some people do not understand that this change of Government, and consequently the whole Government of the Empire, is dictated not by the hard-boiled adherents of the various political parties but by those who are called derisively "political wobblers."

W. S. Gilbert wrote,—"Every boy and every gal, who's born into this World alive, Is either a little Liberal or else a little Conservative." That is not quite true, for there are certain people who are also born with the ability to think for themselves and vote one way one time and the other way another. And they are the people who decide which way the majority is going for any particular candidate.

Some time ago, at a dinner party, one heard a political critic of some eminence lament the fact that British foreign policy never had any continuity and always wobbled on international issues. A particularly brilliant Staff officer retorted that on the contrary, British foreign policy had always had one set policy, which was, always to ally the British Empire with the second strongest Power on the Continent so as to maintain a sound Balance of Power. This, he said, tended to keep the Peace of the World, and in the event of war prevented any one Power from dominating the rest. If readers of THE AEROPLANE will grasp these ideas they will perhaps have a better understanding of the policy of this paper.

There is however one fixed principle on which THE AEROPLANE pursues a fixed policy, and that is, when anybody disagrees from any line of thought or action set forth in this paper, that person's opinions are always willingly given the same publicity as those of the paper itself. The more open argument there is on the subject the more apt people are to come to a sound conclusion.

THE BONE OF CONTENTION.

Seldom has there been more argument on any subject concerned with aviation than on the question of what we are going to do about keeping the Schneider Trophy next year, or the year after,—as seems to be more likely after General Balbo's little chat with Sir Samuel Hoare last week.

The probability of a postponement was foretold in THE AEROPLANE of Dec. 7.—Personally postponement at our instigation, or with our collusion, strikes one as pusillanimous and unsportsmanlike. Our only excuse for postponing would be lack of challengers. Then we might refuse to claim a walk-over (or fly-over) as the Americans did, with such fine sportsmanship, in 1924.

But, this official discussion between Sir Samuel Hoare and General Balbo means Government interference. And Government interference must entail Government support, if we decide to defend the Trophy in 1929. Meantime it would be very funny if Czecho-Slovakia or Switzerland chose to send us a challenge for 1928, and so forced us to defend, or hand over the Trophy.

Anyhow, if we defend the Trophy in 1929 there must be no monkeying with the rules, such as making the speed-contest into a weight-carrying performance. The Schneider Trophy is our only International Speed Contest, and it must remain as such.

Originally it was presented by M. Jacques Schneider "to promote the development of the technical design of marine aircraft."—It does nothing of the kind. It promotes speed and nothing else. It is flown over water because there is more space there for alighting. To make it into a "marine aircraft" event after all these years would be to kill the speed interest and with it all advertising value.

Still, postponement may give us a chance of getting higher speed,—if we set to work now. The last time we decided not to compete one remarked that at least we should then have a chance of completing the machines on the boat going to Venice. Now, if we do not compete in 1928, we may finish them in the R.A.F. sheds, or on the starting line, in 1929, provided we decide right now to defend the Trophy.

Evidently the views expressed in this paper have been very unpopular among certain sections of the aero-



PROTECTION.—The Avro Avian (Cirrus) "Red Rose" inside the Fort of Rutbah Wells. When Capt. Lancaster and Mrs. Keith Miller were brought down by bad weather at Rutbah, in the middle of the desert route to Baghdad, the machine was folded and pushed inside the entrance to the Fort to protect it against the gale which was blowing. Mr. H. E. Hamblin, Station Engineer for Imperial Airways, who sent the photograph, says that with its wings folded the Avian had just three inches to spare,—another argument in favour of the small aeroplane. According to the latest news the "Red Rose" is now at Karachi.

nautical community. Therefore the views of that section must be given a fair show. And, one would point out, the views on both sides hold good whether the Contest is annual, biennial, quinquennial, or once in a hundred years.

Some people in the Aircraft Industry, by no means all of them, want the Air Ministry to spend several tens of thousands of pounds of the Taxpayer's money on defending the Schneider Trophy next year. The things they want the Air Ministry to do are roughly as follows :—

(A) To pay for the building of complete new machines, or at any rate for the reconstruction of this year's machines and engines.

(B) To train and pay all the expenses for a team of R.A.F. pilots.

(C) To house and maintain as the Nation's guests all possible challenging teams from foreign countries. This may mean accommodation for 25 machines (3 competitors and 2 spares for each of five countries), 25 pilots, and about 100 assorted mechanics, engineers, experts, commanding officers and so forth.

(D) To entertain at lunches, banquets, receptions and so forth not less than 1,000 guests at a time over a period of about a week.

Now that is a pretty tall proposition, even if England had made a habit of collecting all the World's wealth, and was, like the United States, suffering from sciatica from sitting on cold gold. For an overtaxed country with an adverse trade balance like England such lavish expenditure would appear to be difficult—despite the fact that the more one sees of foreign countries the more one finds that the English are the best fed, best clothed, best housed and best amused people in the World.

At the other end of the argument, the Air Ministry says in effect to the Royal Aero Club, as the controlling body of the sport of Flying, and to the Aircraft Industry, on which the life of the Club depends :—

(A) We have got last year's machines and we do not mind paying for reconstructing them and getting a bit more speed out of them for next year. Also there are some super-boosted engines coming through which will give even more power than this year's engines and we do not mind your using these for the competition. But you will have to insure them.

(B) You can train your own civilian pilots, because international air racing is not part of the job of the First Line of Defence.

(C) We will provide accommodation for all the racing machines you can produce and you can have the free run of any air station you like, but you must provide accommodation for the visiting teams or else they must live at their own expense.

(D) Public entertainment on a mass-production basis is no affair of ours.

The Political Aspect.

Now that seems a perfectly sane attitude for the Air Ministry to take, considered as an Air Ministry. There is absolutely no section of any Vote in the Air Estimates which can possibly be twisted or expanded to include such expenditure.

But, of course, if political pressure can be brought to bear on the Prime Minister, and on the Chancellor of the Exchequer, and if they, and the rest of the Cabinet, can be convinced that the honour and the commercial prosperity of the British Nation depends on our holding the Schneider Trophy, and putting up such entertainment as has been indicated, that is quite another matter.

The proper way to set about it seems to be to ask the Houses of Parliament for a Supplementary Estimate for the Foreign Office or the Home Office or somebody other than the Air Ministry for an amount big enough to cover all these expenses. A business of such Imperial importance, and international hospitality on such a scale, is surely a matter for the Foreign Office and the *Corps Diplomatique* rather than for an engineering concern such as is the Air Ministry.

If Parliament thinks that such expenditure is worth while, well and good. One can quite believe that such a vote would have support from all political parties. The Conservatives would support it because such a demonstration would be equivalent to showing the Flag, not to say flag-flapping, to the World. The Liberals would support it because it would show that they are liberal-minded. The Socialists would certainly support it because it would be a splendid exhibition of Socialised racing, as opposed to all other forms of sport which are supported by mere bloated capitalists.

After all, it is a question which Parliament as a body should decide. In this country we do not rejoice in a benevolent autocracy. In Italy when His Excellency Mussolini says that a thing is to be done it is done. Nobody bothers whether the growers of Piedmontese vines or the hewers of Carara marble or the tinners of Sardinian pilchards or the millers of Milanese macaroni approve of their tax-money being spent on entertaining foreigners at the Lido. And anyhow the Italian Nobility found most of the money out of their own pockets.

In the United States, as the great philosopher Mr. Dooley has said, "The President does what he damn well pleases and then blames the People." So the U.S. Army and Navy have been able, with Presidential approval, to spend money as they have pleased.

But in this country the Representatives of the People are rather apt to ask awkward questions about any unusual expenditure of which they have not already approved. And so the Air Ministry is wise not to commit itself.

There, roughly, is a statement of the case. Now let us look at some of the arguments for the plaintiffs, to wit those who want the Air Ministry to pay for everything.

The Case for the Plaintiffs.

One consistent reader of The Aeroplane regrets that the recent article in this paper on the subject of the Schneider Trophy is unhelpful in comparison with one which appeared in *The Daily Mail*. That in itself leaves one unmoved. With all due respect to that Empire-shaking publication one does



THE FIRST LIGHT MONOPLANE IN AUSTRALIA.—The Westland Widgeon (Cirrus engine) at Brisbane.

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not regard its opinions as the last word on aeronautical subjects.

This correspondent argues that as the result of practical experience during the past few years he believes Service pilots to be necessary for this race. Here one admits that he has some justification. Service pilots may be as temperamental as professional civil pilots. But at any rate they are under discipline And if they start throwing temperamental fits they endanger their whole careers.

On the other hand nobody, least of all any Service pilot, is going to pretend that civilian test pilots, with years of experience of all kinds of machines, are any less skilful than Service pilots. After all, Service test pilots fly new machines after civilian test pilots have found out any faults which those machines may have. And the civilian test pilot who takes up an entirely new machine for the first time has need of even more delicate hands than has a Service pilot, who at any rate knows that any machine that he is asked to fly has already been flown. Very seldom is a machine flown for the first time by a Service pilot.

The correspondent mentioned takes one to task for saying that a team of civil pilots would only need a month in which to practise on the speed machines. The answer to this is that most of the preliminary work on such speed machines as we have built in the past has been done by civil pilots before the Service pilots took them over. And the civil pilots had to fly them without any preliminary training on fast machines, whereas the Service pilots had older machines on which to practise before taking over the racers.

Certainly the Service pilots this year had the machines for considerably over a month, but owing to bad weather and owing to their being in the wrong place, at Felixstowe instead of Calshot, most of those months were wasted. And anyhow they certainly did not have more than a month's training on the actual racing machines.

Value to the Nation.

On the question of cost this correspondent is particularly interesting. He asks whether one has considered whether the expense is worth while to the Nation. He points on that *The Daily Mail* has evidently given consideration to this point, and states that it would be money well spent and must be more than repaid by the prestige which victory in the contest brings.

He argues that the orders from abroad for aircraft and aero-engines which follow victory are not altogether the most important thing. The other exports which benefit by the increased prestige of the Nation are still more important. He asks whether one thinks that the winning of the Schneider Trophy did any good for British prestige in general this year or not, and if it did why the expense should fall on the British Aircraft Industry? He says that other nations in the past have supported their Aircraft Industries in this contest, and that even France did so at one time very generously although the Government itself did not appear. And he adds that anyhow Italy and America have openly competed as nations.

Referring to the remark in The Aeroplane that the Army has never built racing cars and that the Navy has never built racing yachts, he asks whether there have ever yet been car or yacht races in which foreign Governments have competed, and he argues that the Americans, with all their millionaires, had to step in as a government and win this Trophy. Italy, he says, had to do the same thing to get the Trophy back from America, and we last of all, were able to persuade the British Government that it was the right thing to do if they wanted to have the prestige of winning this Trophy for Great Britain.

He adds that if the Industry has got to run the race and stand the expense, just having the machines and engines lent by the Air Ministry, he is pretty sure there will be no defence next year, because the Aircraft Industry cannot be expected to stand all this cost just for the sake of national prestige.

Further he says that if we were not in competition with other Governments it might not be difficult to interest some wealthy individual in the competition, but that with Income Tax and Super-Tax as they are at present no rich man could be blamed for not supporting an event of this sort.

Finally he says that the arguments set forth in The Aeroplane are just the sort of thing to undo all the good that the Trade has done in the past, and suggests that one did not give these points all the consideration that one should have done before writing the article. He ends his argument with the remark that the article in *Flight* on the same subject is more helpful than that in The Aeroplane and in fact that he had not seen any other article in any other paper which takes the line of argument of The Aeroplane.

Turning Away Wrath.

In answer one would merely remark that The Aeroplane has never been noted for following the trend of public opinion. It has rather made a habit of taking precisely the opposite point of view and proving in the end to be right. The history of aviation in the last fifteen years is full of such instances. At the same time, one is quite ready to admit that, viewing things from his own particular angle, this correspondent has every justification for his opinions.

Quite possibly he is right. Perhaps the Nation as a whole would benefit enormously by our winning the Trophy again next year, or the year after, or after the next war. But, as suggested at the beginning of this article, one believes that the representatives of the Nation should be asked to vote the money for doing so.

If the Nation does so it should be done on the grand scale, according to the example set to us by Italy. If all political parties are agreed on this subject then there is nothing more to be said about it. And one quite agrees that it would be a ghastly mistake to do the thing in a half-hearted way.

Certainly two or three firms who are immediately interested as the makers of the aeroplanes and engines cannot be expected to put up £25,000, or perhaps more, for new machines and new engines and the vast expenses of accommodating and entertaining crowds of visitors. One does not imagine, for example, that the Napier Company, as the direct result of the magnificent performance of their engines this year, will sell enough additional engines next year to justify them in spending £10,000 or £15,000 as their share of the expenses. Nor can the advertisement which the Supermarine firm and the Gloster firm got out of the British effort justify similar expenditure on their part.

If all the members of the Society of British Aircraft Constructors agreed that it was in the interests of the British Aircraft Industry as a whole to bear the expense they would have to subscribe anything between £1,000 and £2,000 each to a common fund for the expenses. And though the members of the Aircraft Industry are on the best of terms with one another personally, one cannot see the majority of the firms putting their hands in their pockets to that extent to help towards a colossal advertisement for two or three of their number. That is trying human nature a little bit too high.

The Schneider Trophy has not yet attracted public interest to the point where winning it or attempting to win it has the same advertising value as the *America* Cup had before the War, so we are not likely to find a Sir Thomas Lipton to put up the money which that interesting personality has spent on his various *Shamrocks*. The only man who is interested enough in aviation to do so is Sir Charles Wakefield. And Sir Charles evidently thinks that he can do more good to aviation by giving generous support to a number of different worthy objects than by putting all his money into one attempt. In which policy one is perfectly certain that he is right.

What Private Enterprise Has Done.

Evidently the expense of winning the Trophy, or even of putting up a respectable defence in these days, is too much for private enterprise. But we should remember that we have won it twice, and defended it on other occasions by private enterprise.

The first time, when Mr. Howard Pixton won it in 1913, the whole expense was borne by Mr. T. O. M. Sopwith. In 1919 Mr. Hubert Scott-Paine of the Supermarine Co., Mr. C. R. Fairey, the Avro firm, and the Sopwith firm all built defending machines at their own expense.

In 1922, when Mr. Biard won at Naples, the whole expense was borne by Mr. Hubert Scott-Paine, then the proprietor of the Supermarine Co. He went to all the expense of building a high-speed flying-boat, designed by Mr. Mitchell, whom he had discovered some time before as a locomotive engineer; he sent the boat to Italy at his own expense; and he took his own motor-boat out as tender. He had no warships to help him, and no Air Force. Pilot, mechanic and all included there were only eight people in the British party. There was nobody from the Royal Aero Club, there was a Frenchman in the time controls and Americans at the turning points. But the Supermarine won, and prevented the Italians from becoming the permanent holders of the Trophy.

It may seem a simple thing now, but the task was full of difficulties, and it was a job of work of which that little crew of Englishmen may always be proud. And in fact it was the only international Trophy won by individual effort for England since the War.

In 1923, when we were beaten by America, at Cowes, the Supermarine and the Blackburn firms both entered machines as private ventures.

Taking it bye-and-large, the cost of building the defender of 1919, the winner of 1922, and rebuilding the latter again as a defender in 1923, if Mr. Scott-Paine got out of his Schneider Trophy ventures for less than £10,000 nett, he did very well. And it is just as well to remember that but for his sporting effort the Schneider Trophy would now be the permanent property of Italy.

In parenthesis one would like to correct the statement made recently that Squadron Commander Bird, who has carried



PRODUCTION

As the result of the adoption of the Fairey IIIF by the British Air Ministry as well as by Colonial and Foreign Governments, the Fairey Aviation Company are now producing the General Purpose and Fleet Air Arm types of this aircraft in large quantities. This building activity is the result of producing a high performance aircraft capable of undertaking the varied requirements of the Royal Air Force (including both its Naval and Military spheres of operation) and to fulfil these requirements without loss of performance.

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on so efficiently the Schneider Trophy tradition of the Supermarine company, went direct to the Supermarine firm from the R.N.A.S. As a matter of fact, he left the R.N.A.S. to join May, Harden and May, the well-known yacht-builders, who at that time were a subsidiary firm of Mr. Holt Thomas' great Aircraft Manufacturing Co., and were building flying-boats at Hythe on Southampton Water. He actually joined the Supermarine firm from that company to represent their interests in London in direct contact with the Air Ministry, and so became a director of the firm in which he now has sole control.

What About Dropping It?

If the expenses of winning the Trophy are so enormous, surely we may reasonably consider the arguments in favour of dropping it altogether. If we did so, nobody could jeer at us for saying that the grapes were sour.

We have shown that we can win the Trophy and we have proved that our machines can do 300 miles an hour, even though, owing to Service muddling, we have not captured the World's Speed Record. So we might quite reasonably drop further argument on the subject.

What, after all, is the value of the Schneider Trophy as an advertisement to the Nation as a whole or even to the British Aircraft Industry. Has our winning it sold one extra pair of boots for Northampton or one extra hundredweight of steel for Sheffield?

America held the Trophy for about three years, but one has not noticed as yet a flood of American airplanes in the European market, and if American commercial aeroplanes capture the overseas market, owing to our sleeping peacefully on Air Ministry orders, they will not do so because America won the Schneider Trophy in 1923. The man who wants an efficient five-seater aeroplane does not care who wins the Schneider Trophy as long as he gets it.

Italy won the Trophy last year, but so far as one's knowledge of foreign markets go, one cannot discover that Italy has sold one solitary aeroplane abroad either for peace or war. On the other hand the French, who have not competed for the Schneider Trophy for years and years have done practically all the foreign business in war machines except for a little that has been captured by England and America.

Probably winning the Trophy this year has done us more good than the winning would have done to any other nation. People had rather begun to look on us as back numbers so far as speed machines are concerned, though they have quite considerable regard for the material and construction of our aerial lorries. They know that they cannot buy our very latest and most efficient war machines, and they know that we do not make the kind of efficient civil machine that they need.

So, barring the ubiquitous Moth, and certain business which Vickers Ltd. and the Fairey Aviation Co. have done in Chile, we have done so little abroad that we really needed the advertisement which we have got.

A Commercial Policy.

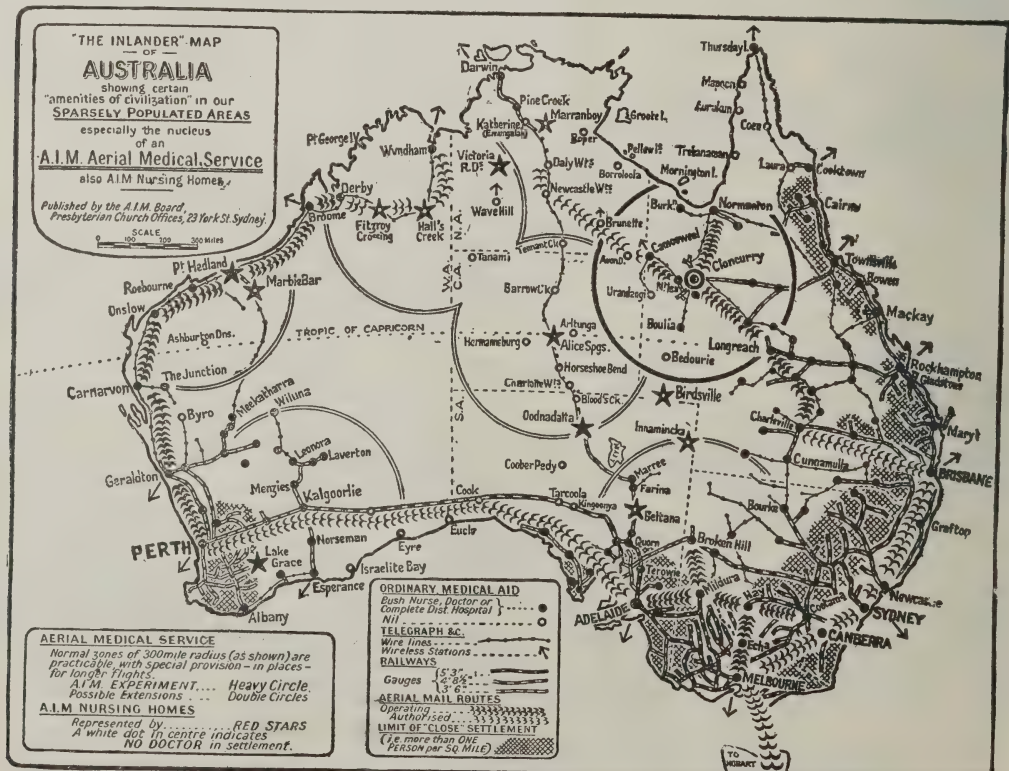
Honestly one does not believe that we should suffer a pen'orth of harm if we did not take the trouble to defend the Trophy, provided that, by way of compensation, we set to work and within six months from now offered people overseas the types of aeroplanes which they need. One uses the word "need" advisedly, because there is not as yet a vast demand for the sort of machine which one has been advocating so constantly lately. But the need is there, and when a few machines of that type get to work, people overseas will realise how badly they need them.

In some places they are already awakening to the need—as has been shown by numerous letters published in The Aeroplane during the past few months. Now, by a curious coincidence, comes yet another confirmation of what is wanted.

Mr. P. K. Copperthwaite, late R.F.C., and R.A.F., writing from Paratoo Station, South Australia, sends a cutting from The South Australian *Register* dated Nov. 1, 1927, which contains an account of the projected Aerial Medical Service which is being organised by the Australian Inland Mission. West Australian Airways, and the Queensland and Northern Territories Aerial Services, have already shown how air communication opens up new country by making the ordinary comforts of civilisation available to people in the out-stations. And on both lines good work has been done by bringing patients to doctors and taking doctors to patients in cases of emergency.

The Australian Inland Mission is now endeavouring to establish regular medical stations in areas where there is poor communication, and intends, if possible, to equip these stations with proper ambulance machines. An experimental station has actually been opened at Cloncurry on the Quantas line, a point which, as the map shows, serves practically a full circle of sparsely settled country.

Telegraph lines are near enough to most people to give them a chance of calling up a doctor within a few hours of their need. And if such stations can be assured of the use

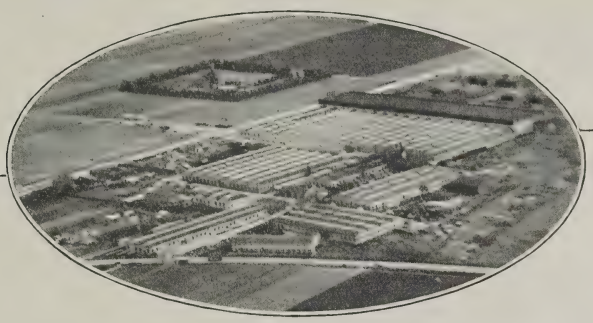


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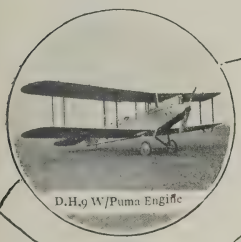
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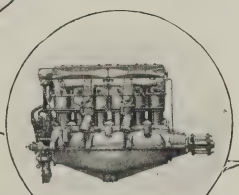
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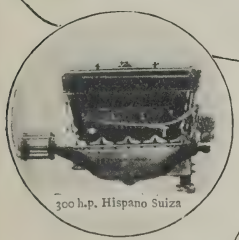
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of an aeroplane within reasonable time they can do good work, even without waiting for the period some few years ahead when every such station will be able to maintain its own ambulance machine. After all, this need not be very far ahead, for a small ambulance machine would cost very little more to buy than the motor ambulance which is owned by practically every small town.

Mr. Copperthwaite in his covering letter remarks that he is immediately struck by the fact that the machine required for the aerial medical service is just such as America is producing in quantities. And the nearest that we have got to it is the D.H.50.

OUR HOPE.

One has heard during the past week or two of several British firms which are either actually producing experimental monoplanes in the 200 h.p. class, or have them on the drawing board, or are contemplating designing them. Also one is assured on the best authority that the Armstrong-Siddeley Lynx engine is now giving 250 h.p., so that users can depend upon it to give 200 h.p. or thereabouts quite steadily. Also one gathers that it can be bought at a price which compares quite favourably with the Wright Whirlwind. And furthermore, there is a sporting chance that within a few months two other British engines of about the same power, both cheaper than the Whirlwind, may be on the market.

That being so, there is no excuse whatever for our not setting to work to build the type of machine that Australia and the other Dominions need. But we must remember that we have got to compete with American prices, and that we shall be selling to keen commercial buyers overseas instead of to an Air Ministry which recognises that the building of war machines under official inspection and subject to continual official alteration costs a good deal more than does the unrestricted construction of commercial aircraft, which will be subject only to the kindly criticism of the Aeronautical Inspection Department,—which is a very real help.

Subject to our producing the right machines at the right price there is big money to be made out of commercial aircraft within the next few years. Not only is there this need in our Overseas Dominions and in foreign countries where the big open spaces ask for air communication. There will be a great deal to be done in big commercial flying-boats, very much bigger than anything we have got at present, and also in comparatively small water-flying craft, whether little things like Moths for Canadian lakes or float seaplanes in the 200 h.p. class.

Therefore one suggests quite seriously to the British Aircraft Industry that they consider carefully whether it is not worth our while to stop bothering ourselves about the long-distance advertising value of prestige, such as we might get if we did happen to win the Schneider Trophy again, and set ourselves down seriously to produce commercial aircraft on a commercial basis. But, before we sink into pure commercialism, for Heaven's sake let us get that 300 mile-an-hour Speed Record, just to show the foreigners what we *can* do when we try

With which, one wishes all one's long-suffering readers a Happy Christmas.—C. G. G.



THE NEXT STEP.—A Supermarine Southampton (Napier Lion engines) with metal hull, flying over Southampton Water.

WITHOUT COMMENT.

The Air Ministry announces :—

His Excellency General Balbo, Italian Under-Secretary of State for Air, has taken advantage of a short visit to London to discuss with Sir Samuel Hoare the future of the Schneider Trophy, and in particular the desirability of holding the contest every two years instead of annually as at present.

There is general agreement that an interval of one year is insufficient to allow of adequate progress between successive contests in the technical design of marine aircraft, the development of which was the express object of the Trophy's founder, M. Jacques Schneider, and that consequently an annual contest is not in the best interests of civil aviation. The Italian and British Governments have therefore decided that they will support the project for an amendment in the rules which at present govern the contest to provide that in future it shall take place biennially.

Since time may not admit of a formal alteration of the rules before the date for entries for the 1928 contest, they have further mutually agreed to notify the aeronautical bodies concerned in Italy and Great Britain that they do not propose to support an Italian or British entry in 1928, provided the other countries which are possible competitors signify their willingness to adopt the same course. The United States, French and German authorities have been informally consulted and are understood to be in concurrence with the above proposals.

AN UNBIASED OPINION.

On such subjects as the Schneider Trophy affair the opinions of those whose interest is entirely disinterested are worth a good deal more than those of people like ourselves, who are bound to have prejudices. Writing in *The Army, Navy and Air Force Gazette,* which always represents the outlook of the best Service people and of the genuine amateur sportsman, Major W. E. de B. Whittaker, who has himself had much experience of Service and sporting flying, says :—

There is some weariness in the reiteration of the annual demand for State subsidy in this and other matters. The best support that the Air Ministry can give aircraft firms is a continuity of orders and a simplification of the technical regulations controlling design and production. Horse-racing, we are told, improves the breed of horses, yet none can deny that the purchases of horses for the Army have been still more effective in maintaining the quality of horses and in providing a living for horse-breeders.

The methods of other countries are not the methods of Great Britain, and yet Great Britain loses neither prestige nor power. If the Government gives further support to aeronautical sport, then it must also assist other sports equally useful to those engaged directly in national defence. Squash rackets and lawn tennis deserve a grant because they train the eye and the hand and support an industry. The comparison may be extended widely.

It is to be hoped that no influence may be powerful enough to divert the Air Ministry from its present intention of refusing to use the ratepayer's money in support of a sporting contest. There are many in the country who could provide the necessary funds, and their willingness to do so might serve to reduce the weariness of Sir Samuel Hoare's parrot-like appeal for "air-mindedness."

AUSTRALIAN AGENCIES.

Capt. E. W. Percival, of 174, Phillip Street, Sydney, has taken up the New South Wales agency for the Avro Avian. He has purchased a Genet-engined Mark II Avian for his own use and for demonstration purposes.

Mr. W. R. Garrett, of 443, Little Collins Street, Melbourne, has been appointed the sole Australian agent for the Travel Air Manufacturing Co., of Wichita, Kansas, and for the Central States Aero Co. of Davenport, Iowa.

The three-seat Travel Air biplane fitted with a 90 h.p. Curtiss OX-5 engine sells for $2,785 (£557). This machine has been certified by the Canadian authorities, and is therefore eligible for an Australian Certificate of Airworthiness.

The Central States Aero Co. manufacture a small enclosed two-seat monoplane fitted with a 75 h.p. Detroit Air-Cat five-cylinder radial engine. This machine, which is known as the Monocoupe, is in production and sells for $2,285 (£457).

AMERICAN AIRCRAFT FOR INDIA.

According to a report in the new American journal, *Air Transportation,* the E. M. Laird Aircraft Company of Wichita, Kansas, is "figuring on" a contract for 24 machines for the Eastern Commercial Company of Bombay.

The report goes on to add, "A ship said to be the exact type of plane being built by the Laird Company is sought by the Bombay company for air mail and passenger lines."

Bombay readers will oblige if they will communicate to THE AEROPLANE the facts behind this rumour.

FRENCH HIGH-SPEED SEAPLANES.

A rumour is in circulation in France to the effect that provision to the extent of 10,000,000 francs is to be made in the French Naval Budget for the development and construction of a high-speed seaplane to capture the World seaplane speed record and possibly the Schneider Trophy. It is said that a list of constructors who are considered to be capable of undertaking this task is already in the hands of the Minister of Marine.

"LW" The record of a veteran MOTH



Captain W. J. McDonough, the Chief Instructor of the Midland Aero Club with G-EBLW.

¶ G-EBLW was delivered to the Midland Aero Club on the 25th September, 1925, the ninth Moth with a Cirrus engine to leave the de Havilland Works.

¶ Her Certificate of Airworthiness was issued on the 9th Sept., 1925, and renewed without a replacement being necessary on the 29th October, 1926.

¶ She has just been overhauled and repainted for the first time since she left the Works and, even now, it has not been necessary to refabric the planes. Her Certificate of Airworthiness was again revalidated for a year on the 15th December, 1927.

¶ As the "Solo" machine of the Midland Aero Club "LW" has flown 543 hours without a forced landing and no less than 18 pupils have taken their pilots' licences on her.

¶ During her whole period of commission THE ONLY REPLACEMENTS used in her maintenance have been TAIL-SKID SHOES AND SHOCK ABSORBERS.

¶ The record of "LW" is typical of the service which Moth Landplanes and Seaplanes are giving all over the World.

This statement is made with the knowledge and authority of the Midland Aero Club.

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THE WRITING ON THE WALL.

The following interesting statement written by a member of the U.S. Department of Commerce is extracted from the New American publication, *Air Travel News*, and can, like so many recent utterances in the American Press and elsewhere, be classed under that elastic heading, "Writing on the Wall":—

The airplane, and it is hoped also the airship, will undoubtedly do much to supplement the missionary work which has been accomplished by the automobile in introducing the United States and its products to all parts of the World. The "Pride of Detroit" on its recent flight from Detroit to Tokio, was the first winged messenger to impress the boulevardier, the sheik, the maharaja, and the mandarin with the resourcefulness of our citizens in producing efficient and utilitarian vehicles of air transportation.

The automobile many years ago penetrated into isolated sections of the World as a forerunner for other American products, and next to the motion picture film has done more than any other item of trade to advertise the United States in foreign climes. Although at this time the exploitation of aeronautical products is infinitesimal in comparsion with that of the automobile, there is no reason why the United States should not lead in foreign trade in the former item as well.

To-day our leading markets for automobiles are Argentina, Australia, Brazil, South Africa and Canada. There is no reason why we should not be able to enter these markets with the airplane. We have already done so, in the last named country.

INSURANCE FOR PILOTS.

One of the questions which continually exercises the minds of pilots, especially married men, is the immense cost of insurance against death, or disablement. "There are some things they do better in France,"—and this seems to be one of them. *The Army, Navy and Air Force Gazette*, concerned as ever for the welfare of those who serve the King, has given a clear idea of the French system, as follows:—

STATE INSURANCE FOR FRENCH PILOTS.

The British are not alone in their anxiety in regard to the increasing list of military aviation accidents, whatever may be their cause or whatever may be their proportion to the strength of the national air forces. This country has little reason to complain of the size of the list. Each accident is part of the price paid for efficiency, though many are due to personal inefficiency. The accidents are not disproportionate to the work done and the progress made.

France, held up as a model by the critics of the Air Ministry, is now somewhat anxious about the increasing tale of death and accident. Last year, out of 72 accidents officially recognised, 42 caused death. From January to June this year, 23 out of 46 accidents added to the list of the dead. Of these accidents over half were said to be due to errors of judgment, and a fifth to engine failure or structural defects.

Because of the public anxiety the Government has decided to authorise a State insurance scheme for Service pilots and to issue regulations for the assistance of pilots whose nerve breaks. It is believed in France that a pilot's nerve decreases with the length of his experience of flying, a theory with which the British do not agree. Thus the French propose to give leave on full pay and family allowance to pilots who have completed 12 years' service with the colours. Such leave may continue for five years or to the age of retirement.

Those disabled by accident while on duty in times of peace will receive the following sums:—Officers, 100,000 francs; n.c.o.'s, 50,000 francs; and privates, 25,000 francs. Widows of pilots killed by accident or who died as the result of accident (in this case the marriage must precede the accident) are to receive similar sums according to the rank of their husbands. Their children will each be awarded 25,000 francs (commissioned ranks) and 12,500 francs (other ranks). Children deprived of both parents will have their payments increased by 50 per cent.

Pilots suffering 70 per cent. disablement receive the full rates according to rank. Before the scheme becomes effective it must pass the Chambers, but there is little fear of opposition. It is a move in the right direction, though it is in every way less generous than the scheme at present in operation in this country.

Incidentally, some pilots, Service and Civil, may not know that insurance against Permanent Total Disablement is much cheaper than insurance against Death. In a bad crash a pilot either is killed or is so little damaged that he recovers. Cases of permanent total disablement are rare, and the Insurance Group recognise this in their scale of premiums.

THE NEW U.S. AIRCRAFT CARRIER.

On Oct. 31 the U.S. aircraft carrier *Saratoga* was commissioned for service with the U.S. Navy.

The *Saratoga*, together with the sister ship *Lexington* which will shortly go into commission, were originally laid down as battle-cruisers of 43,500 tons to be armed with eight 16 in. guns and to have a speed of 33¼ knots.

Following on the 1921-22 Washington Conference it was decided to re-design these two ships, then in an early stage of construction, to conform to the maximum allowance for aircraft carriers, a clause in the Treaty permitting any of the contracting Powers to build not more than two carriers of not more than 33,000 tons standard displacement.

The *Saratoga* was built by the New York Shipbuilding Corporation of Camden, N.J., and was launched on April 7, 1925. Her total length is 880 feet, the breadth of the flying deck 106 feet and her armament consists of eight 8 in. guns arranged in four twin superimposed turrets two forward and two aft of the superstructure. Anti-aircraft armament consists of twelve 5 in. high angle guns.

All superstructure, a large proportion of which appears to consist of one huge slab-sided smoke-stack, is mounted to starboard of the flying-deck.

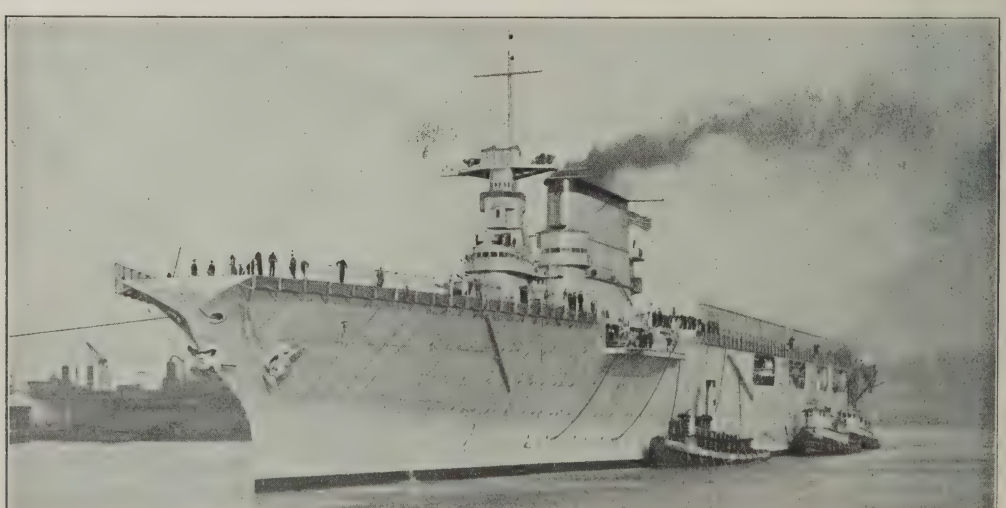
The *Saratoga* has accommodation for 72 aircraft, to consist of two twelve-machine squadrons of three-purpose Torpedo, Bombing and Scouting aircraft, twelve Observation, and thirty-six Fighting aircraft, and carries a complement of 1,962 officers and men.

Propulsion is by steam from sixteen White-Forster oil-burning boilers. Eight 22,500 kilowatt turbine generators supply current to four 45,000 h.p. double propulsion motors which are connected to the four propeller shafts.

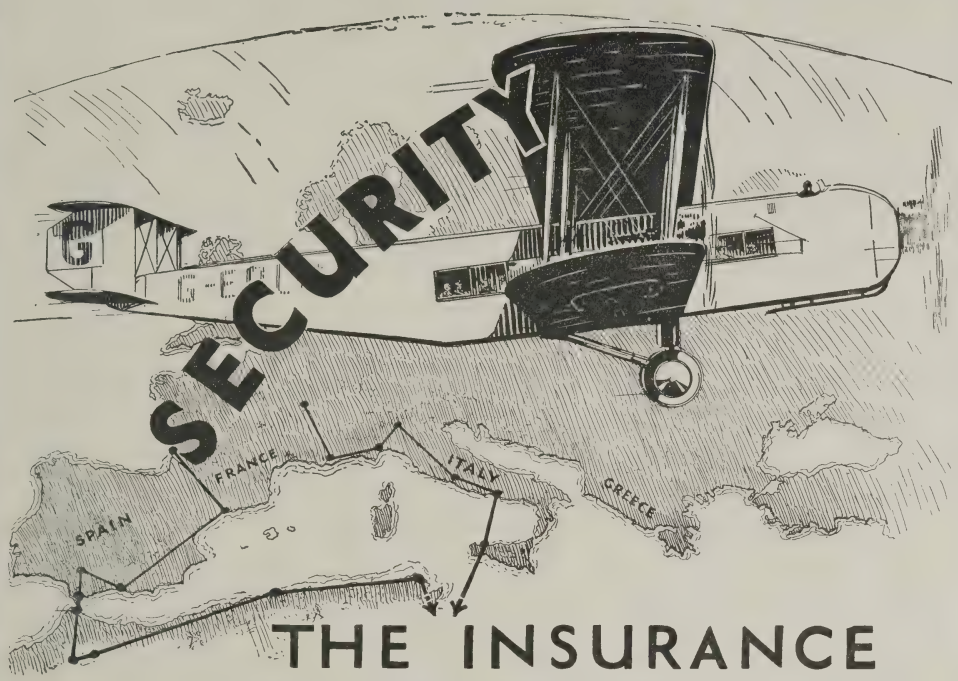
The total cost of the vessel is estimated to be about £9,000,000, which, together with most other details of the vessel, including all dimensions, power, speed, number of aircraft carried and complement fulfils the American desire to have the "biggest ever."

The *Lexington* which will be identical with the *Saratoga*, except for having Yarrow in place of the White Forster boilers and a slight modification in aircraft equipment, is due for commissioning in a few months' time.

There are experienced officers in the U.S. Naval Air Service who would rather have three fast carriers of about 10,000 tons apiece than one "biggest ever." They would be more trouble to sink.



THE BIGGEST EVER.—The U.S. Aircraft Carrier "Saratoga," commissioned Oct. 31 for duty with the Pacific Fleet. The funnel and all superstructure is on the starboard side.



The Armstrong Whitworth Silver Wing Argosy Air Liner has been selected by Imperial Airways Limited as the most suitable machine for their First Winter Air Cruise over Northern Africa and the South-West of Europe.

This First Winter Five Weeks' Air Cruise marks another advance in commercial aviation, and the fact that the Silver Wing Argosy Air Liner with its three Armstrong Siddeley Jaguar engines has been chosen, proves its claim to be the safest aircraft in the world.

THE INSURANCE RATES FOR THE SILVER WING ARGOSY ARE LOWER THAN THOSE OF ANY OTHER COMMERCIAL AIRCRAFT IN THE WORLD.

Sir W. G.

ARMSTRONG WHITWORTH

AIRCRAFT LIMITED,

Works & Aerodrome: Coventry.
London: 10, Old Bond St., W.1.

A.52

THE ROYAL AIR FORCE.

The London Gazette.

Dec. 13.

General Duties Branch.—Group Capt. J. A. Chamier, C.B., C.M.G., D.S.O., O.B.E. (Deputy Director of Technical Development), is appointed Director of Technical Development, Air Ministry, vice Air Commodore J. L. Forbes, O.B.E. (Dec. 12).

Wing Cdr. N. J. Gill, C.B.E., M.C., is appointed Deputy Director of Technical Development, Air Ministry, vice Group Capt. J. A. Chamier, C.B., C.M.G., D.S.O., O.B.E. (Dec. 12).

The following are placed on the half-pay list:—Wing Cdr. J. E. A. Baldwin, D.S.O., O.B.E., scale A (Dec. 8, 1927, to Jan. 20, 1928, inclusive); Wing Cdr. T. W. Mulcahy-Morgan, M.C., scale B (Dec. 17); Flg. Off. C. H. Tighe, scale B (Dec. 1).

Flt. Lt. W. H. Markham takes rank and precedence as if his appointment as Flt. Lt. bore date Jan. 1, 1925, immediately following Flt. Lt. J. Blackford on the gradation list. Reduction takes effect from Oct. 25, 1927; Flg. Off. A. B. Ball is placed on the retired list (Dec. 9); C. R. Townsend, Lt., R.N., Flg. Off., R.A.F., relinquishes his temp. comn. on return to Naval duty (Nov. 24). Flt. Lt. M. A. Simpson is placed on the retired list on account of ill-health and is granted permission to retain the rank of Sq. Ldr. (Nov. 30). (Substituted for the notification in the *Gazette* of Nov. 29.)

Accountant Branch.—Flt. Lt. P. J. Farmer is granted the acting rank of Sq. Ldr., with pay, whilst employed at Fleet Air Arm Accounts Office, China (Apr. 1). The following are granted perm. comns. as Plt. Offs. on probation with effect from and with seniority of Dec. 3:—R. D. Pratt, L. Chegwiddon, F. C. Rendle, N. Wallett, G. H. White, R. L. M. Hall, V. H. Lewis, V. Matveieff, E. L. G. Le Dieu, J. R. Ackers.

Medical Branch.—Flt. Lt. E. A. Wheeler (temp. Major, Dental Surgeon, General List) is promoted to the rank of Hon. Sq. Ldr. (Nov. 30).

Reserve of Air Force Officers.—General Duties Branch.—C. R. S. Smith is granted a comn. in Class B as Plt. Off. on probation (Dec. 13); Plt. Off. S. Summerfield is transferred from Class AA to Class C (Dec. 13); Flg. Off. R. T. Bark is removed from the service (Dec. 7).

Appointments.

Week ending Dec. 19.

General Duties Branch.—Wing Commanders G. B. Hynes, D.S.O., to Air Ministry, Directorate of Aeronautical Inspection, for duty as Chief Inspector (Engines), 19/12. G. I. Carmichael, D.S.O., A.F.C., to H.Q., India, for Staff Course at Staff College, Quetta, 3/1. E. R. Manning, D.S.O., M.C., to R.A.F. Depot, Uxbridge, for Administrative duties, 6/12.

Squadron Leaders T. W. Elsdon, to R.A.F. Training Base, Leuchars, 5/12. A. R. Arnold, D.S.C., A.F.C., to R.A.F. Depot, Uxbridge, instead of to No. 9 Sqdn., as previously notified, 12/12.

Flight Lieutenants D. F. Anderson, D.F.C., to H.Q., India, 6/12. J. B. H. Rogers, to Aircraft Depot, India, 13/11. V. Buxton, O.B.E., and T. C. Luke, M.C., to No. 45 Sqdn., Middle East, 23/11.

Flying Officers R. H. Horniman, to R.A.F. Station, Kenley, 13/12 A. I. Riley, A.F.C., and S. M. Thomas, to No. 45 Sqdn., Middle East, 23/11. J. S. Phillips, to No. 45 Sqdn., Middle East, 1/12. R. Legg, to R.A.F. Depot, Uxbridge, 27/11. G. R. A. Pallin, to E. and W. School, Flowerdown, 9/12. T. H. Finney, to No. 602 City of Glasgow (B) Sqdn., Renfrew, 11/12. C. G. G. Woledge, to E. and W. School, Flowerdown, 18/11. J. Warburton, to No. 5 Sqdn., India, 6/12. L. C. Phillips, to No. 28 Sqdn., India, 6/12. F. J. Parker, to No. 20 Sqdn., India, 6/12. I. J. Fitch, to No. 5 Sqdn., India, 6/12.

Pilot Officers H. H. Martin, to No. 43 Sqdn., Tangmere, 7/12. The undermentioned Pilot Officers are posted to the R.A.F. Depot, Uxbridge, on appointment to S.S. Comns. with effect from 9/12:—R. R. Carroll, F. B. S. Downey, J. F. Macdonald, J. D. Richardson, S. R. Ubee, R. A. Chignell, H. G. Hamilton, D. Menzies, J. L. Smallwood, D. S. Collins, J. E. McCann, G. F. Overbury, F. L. Truman. E. E. Carter, W. F. Murray, J. A. S. Outhwaite, M. M. Freeman, G. F. Hales, C. H. R. Little, C. Stephenson, to R.A.F. Depot, Uxbridge, on appointment to S.S. Comns., 13/12.

Medical Branch.—Flight Lieutenants C. G. J. Nicolls, M.B., to No 31 Sqdn., India, 23/10. T. W. Wilson, to No. 27 Sqdn., India, 9/11.

Flying Officer C. W. Coffey, to R.A.F. Station, Biggin Hill, 1/1.

Stores Branch.—Flight Lieutenants W. R. P. Allen, to No. 45 Sqdn., Middle East, 23/11. L. E. Carter, D.C.M., to R.A.F. Depot, Uxbridge, 16/12. C. T. Davis, to R.A.F. Station, Upavon, 7/12.

Accountant Branch.—Flight Lieutenants C. H. Moore, to R.A.F. Depot, Uxbridge, 21/11. W. E. Fisher, M.C., to Central Accountant Office, Poona, 6/12.

Commands and Staff.

Group Captain J. A. Chamier, C.B., C.M.G., O.B.E., D.S.O., whose appointment as Director of Technical Development, Air Ministry, appears in *The London Gazette* of Dec. 13, was born in 1883 and educated at St. Paul's and the Royal Military College, Sandhurst. He entered the Army in 1902 and served in the Somaliland campaign of 1904 and in the Malay States in 1910-11 with the 33rd Punjabis.

He learned to fly on a Caudron biplane at Hendon, and his Royal Aero Club certificate, No. 340, is dated Oct. 22, 1912. He was appointed a Flying Officer in the R.F.C. in August 1915 and became a Squadron Commander in March 1916.

He served with his regiment in Egypt in 1914, and joined the R.F.C. in France in September 1915, remaining on active service with the R.F.C. and R.A.F. practically until the Armistice.

He was awarded the D.S.O. in 1917, the O.B.E. in 1918, C.M.G. in 1919 and C.B. in 1926.

In 1920 he was appointed Deputy-Director of Operations and Intelligence at the Air Ministry. In January 1921 he was promoted to the rank of Group Captain, and in February 1923 he was appointed to H.Q. India for Air Staff Duties.

In May 1927 he was appointed Deputy-Director of Technical Development, Air Ministry.

Though essentially a regimental officer, Group Capt.



PASSING OUT AT CRANWELL.—Air Marshal Sir John Salmond inspecting Cadets, Air Commodore Halahan (Commandant, the Cadet College) behind his left shoulder, and Group Capt. MacEwen behind on his right.

SOME UNEQUALLED PERFORMANCES.

REGULARITY-SECURITY-ENDURANCE

LORRAINE AERO ENGINES.

Rome-Melbourne-Tokyo (54,000 km.) by Colonel de Pinedo and Campanelli (450 h.p. motor).
The Tour of Europe (7,500 km.) in 61 hours from start to finish, by Arrachart and Carol (450 h.p. motor).
Warsaw-Tokyo-Warsaw (20,250 km.) in 130 hours, by Lieut. Orlinski (450 h.p. motor).
Paris-Pekin (10,500 km.) in 6 days, by Pelletier Doisy and Carol (450 h.p. motor).
Circuit of the West Mediterranean (6,000 km.) in 41 hours 50 mins. from start to finish, by Pelletier Doisy and Gonin (450 h.p. motor).
Night Crossing of the South Atlantic, by Colonel Sarmento de Beires (450 h.p. geared motor).
Paris-Bombay-Belgrade (14,500 km.) in 89 hours flying time by Sondermayer and Baydak (450 h.p. motor).
Circuit of Eastern Europe (8,000 km.) in 7 days by Commandant Weiss and Assolant (450 h.p. geared motor).
Circuit of the Mediterranean (10,700 km.) in 6 days by Pelletier Doisy and Gonin (650 h.p. geared motor).
Michelin Cup, 1925 (Captain Pelletier Doisy), 1927 (Capt. Challes).
Breguet Cup, 1925 (Adjt. Sahuc), 1926 (Adjt. Duroyon).
King of Servia's Cup, 1926 and 1927.

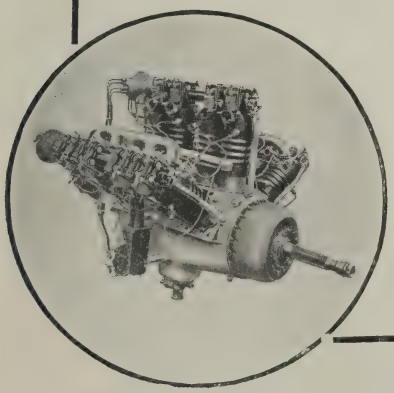
WATER-COOLED MOTORS

400 h.p. (12 cylinders in V), 450 h.p. (12 cylinders in W) direct drive and geared down.
480 h.p. (12 cylinders in W), 650 h.p. (18 cylinders in W) direct drive and geared down.

AIR-COOLED MOTORS

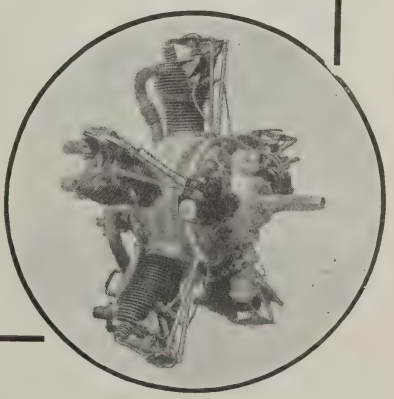
100 h.p. (5 cylinders radial), 230 h.p. (7 cylinders radial), 470 h.p. (14 cylinders radial).
Automobiles 12, 15 and 30 h.p. **Marine Motors**, 250 and 500 h.p. (petrol).

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PARIS.



Chamier has always taken an active interest in the practical side of technical developments, seeing these matters from the point of view of the pilot and observer. He was one of the keenest workers for the progress of wireless, both W/T and R/T, and was always quick to recognise the value of mechanisms which, and men who, could produce improvements. Since taking up his duties as D.D.T.D. he has already been responsible for notable advances. And in his new position, backed by Sir John Higgins, who has himself accomplished much in a very short time, Group-Capt. Chamier will find many still greater opportunities.

Wing-Commander G. B. Hynes, D.S.O., whose appointment to the Directorate of Aeronautical Inspection, Air Ministry, for duty as Chief Inspector (Engines) is dated Dec. 19, learned to fly on a Bleriot monoplane at Hendon, and his Royal Aero Club certificate, No. 40, is dated Dec. 31, 1910. In 1911 he went to Larkhill with No. 2 Company, Air Battalion, Royal Engineers. He was then a Lieutenant R.G.A. The Air Battalion took part in the Army Manœuvres in August, 1911, equipped with one Bleriot and some Farmans and Bristol box-kites. In 1912 the Government bought a Breguet biplane with a 60 h.p. Renault engine. Sir Walter Raleigh, in *The War in the Air*, Vol. I., wrote of this machine :—"It required enormous strength to steer it, and was perseveringly and valorously flown by Lieut. Hynes."

On Aug. 17, 1914, Lieut. Hynes flew to France on one of the machines of the Aircraft Park and landed at Amiens. He was then a Flight Commander, R.F.C.

The London Gazette of Jan. 1, 1917, contains the notification of his appointment to the D.S.O. for distinguished services. After the Armistice Wing-Cdr. Hynes commanded the M.T. Repair Depôt, Shrewsbury, and in 1921 he was posted to the Royal Aircraft Establishment as Chief Experimental Officer (Engines). On Feb. 1, 1923, he was appointed Principal Technical Officer (Engines) at the Royal Aircraft Establishment.

R.A.F. Operations in 'Iraq.

The Basrah correspondent of *The Times* in a message dated Dec. 14 states :—

The Az Zayad and Bedur tribes yesterday, while moving to new grazing grounds, were attacked by a force of Wahabi raiders 30 miles above Bussiyeh, in the Nasiriyeh district, the scene of the Wahabi raid in November. The Wahabis carried off camels and other property.

Aeroplanes of the Royal Air Force engaged in patrolling the frontier saw the raid and attacked the raiders, who attempted to reply to their fire. One machine is reported to have suffered slight damage and its mechanic was slightly injured.. Sheikh Feisal ed Dowish is believed to be responsible for this raid, as for the last.



SAUCE FOR THE GOOSE.—The practical flying people's idea of a wild goose chase. (Full marks.)

R.A.F. SPORTS AND PASTIMES.

Rugby Football

The R.A.F. Rugby Football Trial which should have taken place at Uxbridge on Dec. 19 has been postponed owing to the hard frost. The trial will probably take place on Dec. 31. The following players have been selected for the trial :—

Whites :—Flg. Off. T. Hale Munro (Duxford), Flg. Off. G. Harvey (Worthy Down), Flg. Off. F. S. Hodder (Andover), AC. D. Massey (Shrewsbury), Flg. Off. C. P. Vines (Farnborough), Flg. Off. R. V. M. Odbert (Worthy Down), Plt. Off. D. L. McLean (Worthy Down), AC. W. Munkley (Henlow), F-S. G. F. Cockell (Henlow), Flg. Off. C. J. S. O'Malley (Halton), Flt. Lt. C. D. Adams (Halton), Cadet H. A. Constantine (Cranwell), Cpl. M. G. Christie (Shrewsbury), Flg. Off. G. R. Beamish (Spittlegate), Flt. Lt. J. S. Chick (Wittering).

Colours :—Flt. Lt. G. H. H. Maxwell (Flower Down), Flg. Off. C. H. Brill (Wittering), AA. P. B. Coote (Halton), AC. H. R. Lawson (Manston), AC. R. Bridgens (Ruislip), Plt. Off. J. Norwood (Kenley), Flg. Off. N. Carter (Henlow), Plt. Off. J. Clarke (Duxford), Sjt. A. C. Hall (Wittering), Sjt. N. W. Johnson (Uxbridge), Flg. Off. P. G. Chichester (Manston), Flg. Off. D. W. R. Ryley (Spittlegate), Cadet P. J. H. Halahan (Cranwell), Plt. Off. H. A. Purvis (Kenley), Flg. Off. F. V. Beamish (Cranwell).

Reserves :—Threequarter—Cadet J. R. H. Pott, Cranwell. 2nd Row Forward—Flg. Off. E. H. M. David, Digby. Back row Forward—AC. Warren, Manston.

AIR AFFAIRS IN PARLIAMENT.

THE FROST-BITTEN ROSE.

In the House of Commons on Dec. 14, Mr. Rose asked the Secretary of State for Air if, as a graceful interlude in the process of airship development, he would train his expert staff at Cardington in the community singing of that beautiful old English ditty :—"That's the way the money goes; Pop goes the gas bag."

Sir Samuel Hoare : "I must ask the hon. Member to give me notice of that very interesting question."

AIR RAID CASUALTIES.

In the House of Commons on Dec. 14, in reply to a question by Mr. Cecil Wilson, the Secretary of State for Air said that the number of civilians killed in Great Britain by German aircraft during the War was 1,117.

CIVIL AIR TRANSPORT.

In the House of Commons on Dec. 14, in reply to a question by Sir J. Power, the Secretary of State for Air said that the latest official figures of the civil air transport mileage for various European countries was for the year 1926—Great Britain, 840,000 miles; France, 3,244,000 miles; Germany, 4,064,000 miles; Italy, 325,000 miles. The Italian figure did not represent a full year's operations.

FLYING SCHOOLS.

In the House of Commons on Dec. 14 in reply to a question by Capt. A. Evans, the Secretary of State for Air said that there were no officially recognised schools for civilian flying instruction and he had no information in regard to the exact fees charged by the various schools to their ordinary pupils. He understood that the cost of training for a private pilot's licence might be taken as ranging between £90 and £120 approximately. He could not say whether any reduction was contemplated.

RAIDS IN 'IRAQ.

In the House of Commons on Dec. 14, in reply to a question by Col. Day, the Under-Secretary of State for the Colonies made the following statement :—

The Acting High Commissioner for 'Iraq reports the receipt of a message from the King of the Hejaz and Nejd to the effect that serious trouble has broken out in Nejd and that he has heard, to his regret, that a force of Akhwan is marching north contrary to his orders. He wished the 'Iraq authorities to have warning of this movement. The latest reports show that Akhwan raiding parties have recently been active in the neutral zone, which is between 'Iraq and Nejd territory. On Dec. 9 a British aeroplane reconnaissance was fired upon, one wireless operator being wounded. Later on, the same day, British aircraft located a strong raiding party in this area and attacked them with good effect. There is also a report of a raid by Akhwan further north in 'Iraq territory, but this is not yet confirmed.

ROYAL INTEREST.

On Dec. 14 T.R.H. the Infante Alfonso and Infanta Beatrice of Spain, accompanied by Capt. Del Val of the Spanish Military Air Force, visited the works of Handley Page Ltd. at Cricklewood to examine the new automatic wing-slot.

Bad weather prevented a practical demonstration, but the party saw the device in operation in the wind-tunnel and examined its fitment to such machines as the Handley Page Hyderabad and Harrow and the Bristol Fighter.

The Infante Alfonso is himself a pilot, and has done a great deal of flying, having been attached for a considerable time to the R.A.F., so he is competent to form a sound opinion on the slot. Spanish Aviation will therefore profit by his visit.

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THE GLOSTER AIRCRAFT COMPANY, LTD. have now adopted metal construction for all aircraft, after extensive research and tests extending over more than ten years. **Aircraft Constructors are advised** that the whole of the following patents belong to the Associated Companies, and that manufacture under these patents can only be permitted under licence granted by the patentees.

The patents enumerated below cover the use of corrugated metal strip (steel, light alloys, etc.) as applied to aircraft construction.

26147	129723	158999	195916	227482	259710
121006	131969	161063	195451	229017	261489
127710	132124	164816	200204	229389	261392
127711	132154	170727	200293	234878	263264
127943	133444	171210	200420	234881	263602
128131	136293	176565	206958	235373	271164
128322	141141	180074	211606	237644	196363
128651	148698	188055	218074	240885	223971
128663	150783	190254	218080	247313	
128846	151352	190579	220383	252755	
129023	152874	194114	222172	253960	
129234	154035	195726	223670	255921	
129596	155639	195825	225307	256777	

THE GLOSTER AIRCRAFT Co. Ltd.

AND ASSOCIATED COMPANY

THE STEEL WING Co. Ltd.

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The GLOSTER Company hold a unique position as regards metal aircraft, their staff having been engaged on corrugated metal strip construction since 1915.

ANOTHER FRENCH SERVICE SCANDAL.

The Army, Navy and Air Force Gazette, which takes a vivid interest in the internal affairs of the Flying Services of all nations, has set forth concisely the facts of the latest French aviation scandal. It states the affair as follows :—

Defective French Aircraft.—M. Gamard, a Socialist Deputy, attacked the French Ministry of War on Dec. 5 during the debate on the Army Estimates. He said that several years ago 150 aeroplanes were ordered from the Farman firm. The firm received 9,000,000 francs in advance and had, up to the present time, supplied only a few of the number. None of these machines was fit for military use, and the Ministry of War had decided that an additional 5,000 francs of the State money was to be expended on each machine in order that it might be brought to a reasonable standard of efficiency. Yet even to-day few would care to condemn a pilot to make use even of the modified machines.

M. Painlevé, Minister of War, acknowledged that the charges were, in general, true. The orders for the Farman 110 were issued in 1921 at a time when haste took the place of reason. He admitted also that the machines were inefficient. Endeavours were, however, being made by the Ministry and by the firm to put them in order, and it was hoped that, after further trials, they would be of use in the military flying corps.

LOOKING AHEAD.

Officers and men of the R.A.F. who are appointed to or are likely to be appointed to Egypt or Palestine will do well to get hold of a copy of *Egypt and the Sudan,* a publication in the style of a high-class magazine which has recently been issued by the Tourist Development Association of Egypt. It is magnificently printed and illustrated and full of just that easily-read descriptive matter which is likely to give a vivid and attractive impression beforehand to those who will soon be visiting the country. Copies can be had post free on application to the T.D.A. of Egypt, 3, Regent Street, S.W.1.

THE STORY OF THE SIDCOT SUIT.

Practically everybody who flies wears a Sidcot suit. Most of the people who wear it think it is called after a place named Sidcot. And some people who know it only by sound have written of it as the Sidcup suit,—as if it originated in Kent. As it is one of the most used and most useful parts of an aviator's equipment, the story of its origin deserves to be known.

In 1916, Mr. Sidney Cotton, a young Australian pilot, was serving with No. 3 Wing, R.N.A.S., at Toul, near Nancy. No. 3 Wing was a kind of Independent Force of the Royal Naval Air Service sent to the extreme East of France under Captain Elder, R.N.—commonly known as "Daddy" Elder, owing to his fatherly attitude to his subordinates—for the purpose of bombing the Rhineland towns and munition factories.

It did this job with quite good effect, though occasionally it made a mistake, as when, for example, it put a bomb into a Circus at Karlsruhe, under the impression that such an important building must at least be an Army Headquarters, and killed a number of women and children. And if it had been adequately equipped it would have done better still.

One day the Flight in which Mr. Cotton was a pilot was called upon to get into the air rather quickly. He at the time was tinkering about with his machine and had on a suit of mechanic's overalls. Without thinking about putting on his proper flying kit, which at that time consisted of a leather coat and "fug-boots" (which were long sheepskin boots with the wool inside, shaped rather like fishermen's waders) he hopped into the machine and took off, and was in the air for about two hours. This was in the Winter of 1916, which will be remembered as particularly severe in France.

After landing, Mr. Cotton suddenly realised that he was quite warm, although he was not wearing his flying suit. Therefore he decided to try one of the French fur-lined flying suits, for he thought that if his overalls were warm the French flying suit would be very comfortable indeed.

The fur-lined suit did not come up to expectations, so during his next leave in London, Mr. Cotton arranged with Robinson and Cleaver to make a one-piece suit for him, very much on the principle of the Thermos flask. That is to say, it was one wind-proof suit inside another, with dead air in between. In other words, he tried to keep the heat generated by the body inside the suit.

At the same time he had pockets fitted outside the legs above the knees, so that when sitting in the machine it was easy to get things out of the pockets.

Mr. Cotton found that he could not patent the Sidcot flying suit, so he arranged with Robinson and Cleavers to register the trademark, which they were eventually able to do under the name of Sidcot-Racobal. The name Sidcot was, as may be seen, made up from the first three letters of the inventor's names, *Sid*ney *Cot*ton.

Efforts were made to interest the R.N.A.S. and the R.F.C. in the suit, but at first it did not catch on. In 1917, when Mr. Cotton was stationed at Hendon, several of his suits were sent out there to be tested and to have reports made on them. At that time Mr. Cotton was first lieutenant at the station, so he notified the Air Board of the fact and asked that the suit should be tested by another station. This was done in due course, and the Sidcot suit ultimately became a standard Service issue for pilots and observers.

In these days there are still thousands of Sidcot suits on the market which were sold as surplus war stock. And they appear to be greatly in favour among motor-cyclists.

After the War, Mr. Cotton made a claim before the Committee on Awards to Inventors, through the usual channels, and received a notification that the claim could not even be admitted, as the Sidcot suit was such a simple invention that if Mr. Cotton had not brought it out when he did, someone else would soon have done so. Which statement is equally true of any other invention in the World. At least half-a-dozen pneumatic tyres were invented at the same time as the Dunlop-Welch and we know that Dr. Lachmann's slot was invented almost simultaneously with Mr. Handley Page's, so obviously the Sidcot suit decision was unjust.

Mr. Cotton keeps the Government's reply framed as his sole recognition from the Government of "What Daddy did in the Great War." The original Sidcot No. 1 is still in his possession and gives good service when required, as for example during his flights over Newfoundland and Labrador some years ago, and in his search for Nungesser and Coli this year.—C. G. G.

WITH SCISSORS AND PASTE-POT.

["Modern Aircraft." By Major Victor E. Pagé, U.S. Air Corps Reserve. 835 pp. 400 figures. The Norman W. Henley Publishing Co., New York. Price, $5 net.]

Major Pagé is well known in America as an industrious compiler of hand-books for the instruction of motor-vehicle operators, and in this book he has diverted his talents to the field of aeronautics. Modern Aircraft is described on the title-page as "A Complete Practical Treatise outlining clearly the Elements of Aeronautical Engineering . . . a book for all students of aircraft."

Its range includes the vortex theory of aerofoils, the insurance of aircraft, and instructions to riggers. It has quite obviously been produced mainly with the aid of paste-pot and scissors, but unfortunately the author in his efforts to provide explanatory connecting links between his excerpts from entirely reliable authorities has shown himself to be inaccurate, and often seriously misleading. The book is therefore dangerous reading for the student.

To those reasonably well informed on the theory of aeronautics, Modern Aircraft will provide a large collection of miscellaneous interesting information as to American aircraft and engines. The line drawings are bad. Many are poor copies of British Government diagrams and sketches from The Aeroplane.

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NEW RULES FOR THE R.Ae.S. & I.

Under the terms of the amalgamation of the Royal Aeronautical Society and the Institution of Aeronautical Engineers the council of the combined society were required to set up a Committee to draft such new rules as might be necessary under the new conditions. The said Committee—composed of Capt. P. D. Acland and Col the Master of Sempill representing the R.Ae.S., Mr. M. L. Bramson and Mr. Lawrence Wingfield representing the I.Ae.E., with Lt.-Col. M. O'Gorman as chairman—have now prepared a draft set of rules for the Society, which has been printed and circulated to the members.

A special General Meeting of the combined Society, whose title in the draft rules is abbreviated in R.Ae.S. and I., held at the offices of the Society, 7, Albemarle Street, London, W.1, on Thursday, Dec. 9. "To consider, and, if thought fit, to approve the draft new rules of the Amalgamated Society."

In drafting the new rules the Committee have taken as a model the rules of the Institution of Civil Engineers as the premier professional technical association of the World, and have followed this model very closely.

THE ROYAL AERONAUTICAL SOCIETY.

The Royal Aeronautical Society, with which is incorporated the Institution of Aeronautical Engineers, have arranged the following programme of lectures for the second half of the current session :—

Jan. 5, 1928.—Mr. A. Fage, A.R.C.S., *Some Recent Experiments on Fluid Motion.* Jan. 19.—Major W. S. Tucker, *The Problem of Noise in Civil Aircraft and Possibilities of its Elimination.* Jan. 26.—Mr. R. J. Mitchell, Mr. P. A. Ralli and Capt. G. S. Wilkinson, *Schneider Trophy Machine Design.*

Feb. 2.—Major H. N. Wylie, *The Design and Production of Steel Aircraft.* Feb. 7 (Tuesday).—Wing Cdr. J. G. V. Fowler, A.F.C., *The Maintenance and Repair of Aero-Engines.* Joint Meeting with the Institution of Automobile Engineers (7.45 p.m.). Feb. 16.—Mr. G. P. Douglas, *Experiments on Model Airscrews at High Tip Speeds.*

Mar. 1.—Wing Cdr. R. M. Hill, M.C., A.F.C., *Experiences with the Baghdad Air Mail.* Mar. 15.—Dr. Rudorf, *Testing of Materials used in Aircraft Construction.*

Apr. 12.—Mr. G. R. Volkert, *Some Aspects of the Development of the Slot.* Apr. 26.—Mr. B. N. Wallis, *The Design and Construction of Modern Rigid Airships.*

All meetings, except that held jointly with the Institution of Automobile Engineers, will be held on Thursday evenings, beginning at 6.30 p.m. The exception will be held on Tuesday, Feb. 7, at 7.45 p.m. All meetings will be at the Royal Society of Arts, 18, John Street, Adelphi, W.C.2.

THE SOUTH ATLANTIC AIRSHIP SCHEME.

According to statements made to the Spanish Press by the president and managing director of the Compania Transaera Colon (presumably named after Cristofero Colon, better known to us as Christopher Columbus), the proposed airship line from Seville to the Argentine Republic, the promoters hope to start the service on Oct. 12, 1928, during the Spanish-American Exhibition and on the anniversary of the discovery of America.

Zeppelin L.127, now being constructed at the Zeppelin Works at Friedrichshafen, is expected to be completed in February, 1928, giving ample time for all preliminary tests before the date appointed for the inaugural American flight.

According to the terms of the agreements between the operating company and the Government of Spain and the Argentine Republic, the pilots and operating personnel on the service are eventually to be all of either Spanish or Argentine nationality, and from the beginning some of the personnel must be of those nationalities.

To train officers and men arrangements have been made with the Italian Government for the loan—presumably on terms—of an airship for this purpose. This airship is now due at Seville, and there is a proposal to operate it over a route connecting Spain, Italy and Germany.

WOODEN AIRSCREWS.

Though metal airscrews are very much to the fore nowadays, a visit to the Airscrew Company's works at Weybridge will convince anyone that the wooden screw is very far from being dead.

The works are right on the banks of the river Thames and although they are ideal in summer they are somewhat bleak in the winter. Mr. J. Titler, the proprietor, has by the commercialisation of the wooden airscrew captured practically the entire British market.

Mahogany is the only wood used. Walnut, which was used in large quantities during the War 1914-18, has gone out.

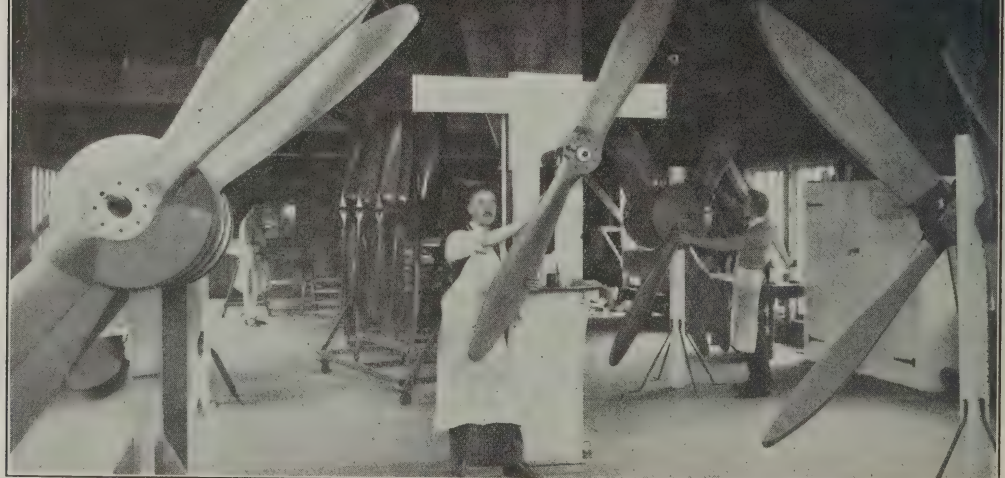
The finish of the airscrews turned out by this company is noticeably better than was so in other screws, British and foreign, some years ago. In spite of this the price has come down materially. The cost of a Moth screw at the moment is only about £3 and one for a Bristol Fighter is something under £10.

At the time one visited the works there were a number of screws going through the shops for the R.A.F., Imperial Airways Ltd., the various firms in the Industry, and for private owners. Also there was a considerable amount of experimental work in hand.

There was a screw which had been designed for the new 650 h.p. Armstrong-Siddeley Leopard. By a curious anomaly of the secrecy rules, although the Leopard is on the part publication list and the machine in which it is installed is, with another make of engine, on the completely open list, with the Leopard it may not be mentioned.

Also there were certain airscrews going through for an Austrian experimental machine and also a certain number for Germany, which country one gathers is distinctly impressed with the work of the Airscrew Company.

When the time comes when Mr. Titler considers that metal airscrews can be made and sold on a commercial basis, the Airscrew Company will turn their attention to that side of the matter, but for the present he is pinning his faith in wood, and, one believes, is actually the only manufacturer of wooden airscrews for the Trade in England.—G. D.



PROVIDING THE PULL.—A corner of the Airscrew Company's premises at Weybridge.



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AN ENGLISHMAN'S EXPERIENCE OF THE WRIGHT WHIRLWIND ENGINE.

A paper read by Mr. C. H. Biddlecombe before the Aeronautic Meeting of the Society of Automotive Engineers at New York on Oct. 20 gives an account of the author's experience with the Wright Whirlwind engine on the Boston—New York Air Mail Service operated by Colonial Air Transport Inc. between June 18, 1926 and July 31, 1927.

As Mr. Biddlecombe had a very intimate connection with British Civil flying before he went to the United States in the beginning of 1926, his opinions as to the virtues of this famous American engine will have a special interest in this country.

The Boston—New York Service.

During the period which Mr. Biddlecombe describes the Boston—New York service was run by one Curtiss Lark, two Fokker Universals and, for a few months, one Fokker Trimotor. In March, 1927, the Lark and one Fokker Universal together with two engines and spares were destroyed by fire at Hadley Field, N.Y., and were later replaced by one Fokker Universal. All these machines had Wright Whirlwind engines type J-4B. (Incidentally it may be mentioned that this is not the most recent type of Whirlwind engine which is known as the J-5.—Ed.)

The total flying time for the period June, 1926/July, 1927, was 2,146 hours 35 minutes. Of this total 293 hours 25 minutes was flown by the three-engined Fokker, making 2,733 hours 25 minutes of engine flying time. The total distance covered was 193,000 miles.

Inspection and Maintenance Routine.

A very complete and rigorous system of inspection and maintenance of engines and aircraft was enforced on this line. A complete list of printed orders—known as Operation Orders—was issued to each pilot and mechanic, giving instructions as to the details of all routine inspections, etc. These orders called for a daily inspection of all engines on service, regardless of the number of flying hours, and in addition for inspection on every arrival at either terminal air-port. This amounted to an inspection once in about 3 hours' flying.

After about 10 months, when the fleet was being more heavily worked, intervals between inspection were increased and based on flying time. The daily inspection was maintained, with a maximum limit of 10 hours' flying between inspection.

Each inspection was carried out in accordance with a printed schedule, intended to ensure that no important item should be forgotten rather than to set a limit to the work which should be done at each inspection.

This schedule required attention to engine bearer bolts, oil pipes, throttle and mixture controls, carburetter, ignition wiring and switches, cylinder bolts, valve clearances, valve rockers and lock wires, valve springs and locks, rocker support locks, spark plugs, H.T. leads and engine instruments. It also required the oiling or greasing of the valve-rocker rollers, valve-rocker sockets and push rods. The inspection mechanic was required to sign a card certifying that all these matters had received attention at each inspection.

Over and above this a more detailed inspection was made after every 15 hours of running. This included removing and cleaning all petrol and oil strainers, cleaning and adjusting of spark plugs, inspection of magnetos, and the cleaning of the oil tank and refilling with fresh oil.

Mr. Biddlecombe states that "an average Whirlwind engine that is supplied with gasoline and oil will run perfectly for hundreds of hours without the least attention to its major components; namely the cylinders, pistons, connecting rods, oil pumps and the like, and the advisability of careful frequent inspection is due to the accessories and installation items."

Fuel and Oil.

There are a number of good oils that may be used in the Wright Whirlwind without danger of serious trouble, and there are a few brands on the market which are exceptionally good. Care was taken to choose two brands of this class, and the very small formation of carbon and the absence of gummy deposit even after 300 hours of running justified this care in the selection of oil.

The use of low grade commercial spirit in the Wright Whirlwind is likely to lead to disastrous results. Pre-ignition, detonation and collapse of piston heads are possible consequences. (American "low grade commercial gasoline" is very low grade by British standards.—Ed.) A weak mixture is also to be avoided in Summer temperatures.

The Whirlwind engine is fitted with a mixture control which can be used at fair altitudes in cold weather with a saving of fuel, but in the author's opinion it is unwise to attempt to economise fuel by running these engines on a weak mixture during Summer, as this may lead to over-heating and eventually to pre-ignition.

On this particular service a fuel composed of 75% aviation spirit and 25% benzol was used during the Summer to keep down the cylinder temperature. During Winter this mixture could not be employed because of the low freezing point of benzol, and in any case was unnecessary owing to the ample cooling available at that season.

Overhaul of Engines.

For economy Colonial Air Transport desired to keep their mechanical staff to the barest minimum necessary. As their New York terminal was only seven miles by road from the Wright engine works, all engines for overhaul were sent to the makers, and all routine work required for service was carried out by two mechanics and an assistant.

Records given in the paper show that seven Whirlwind engines, some of them used on this particular service, and some on other services, ran an average of 279 hours between overhauls. The longest running time up to the first overhaul was 389 hours 28 mins., the shortest 197 hours 5 mins.

Between first and second overhauls the periods ranged from 50 hours 15 mins. to 393 hours 25 mins., but only two of these second overhaul periods were less than 300 hours. Seventeen similar engines used on three commercial services ran from 193 up to 383 hours before receiving their first overhaul.

Details of the fuel consumption and cost of replacement parts for another set of seven Whirlwind engines are also given. These seven engines (which were not used on the Boston—New York line) ran a total of 3,530 hours. During that time the total cost of replacement parts was $280.82 (£57 15s.) equal to just under 8 cents (4d.) per hour.

The average fuel consumption was 11.5 American (9.6 Imperial) gallons per hour and the oil used including all changes was 2.2 American quarts (3.65 Imperial pints) per hour. (These figures go to show that the consumption of fuel and oil attained on recent long-distance flights with Whirlwind engines are not phenomenal for this type of engine.—Ed.)

Engine Failures.

Only three major engine failures occurred on the Boston—New York service during the period Mr. Biddlecombe describes. Two caused forced landings, one occurred on the ground.

In the first the cam-ring seized on its bearing. This bearing was of Y alloy in the J-4B, but this has since been replaced by white metal. The cam-ring runs directly on the crankshaft and is lubricated from the interior of that shaft by a small hole, which in this case apparently was partly blocked by a small piece of carbon or other dirt.

Mr. Biddlecombe remarks that partial blocking of an oil channel such as this will usually have little or no effect on the oil pressure gauge, and that the rise in oil temperature shown on the oil thermometer does not give enough warning to the pilot for him to save the seizure which may immediately follow. He suggests that an oil flow indicator would give earlier warning of restricted oil flow than the present type of instruments and so give the pilot a chance to save his engine.

In the second case the exhaust-valve rocker-bracket on No. 4 cylinder broke. This failure was caused by an internal flaw in the casting at its most heavily stressed section, which could not have been detected in the part when new. From this flaw started a crack which gradually spread under working loads and led to failure after 127 hours' running.

The third failure was the breaking of a piston above the gudgeon-pin into two separate parts. This happened on the ground. The piston head was left at the top of its stroke, and the rest of it moved in the normal way. The trouble was indicated by a drop in revs., and inspection through the plug holes showed that this piston head was not moving when the engine was turned. This failure was probably also due to an internal flaw in the casting.

Minor Engine Troubles.

A few minor troubles were encountered with these engines. After heavy rain moisture sometimes collected on the distributors of magnetos and caused irregular firing. This was easily cured by using vaseline, wax, or even chewing gum, to seal the outlets of the H.T. leads. A light metal hood over the magneto would prevent this trouble.

Spark plugs failed occasionally. Difficulty was met in starting on cold mornings with one particular make of plug. With this type moisture persistently collected on the points when a warm engine was left to cool all night in a freezing atmosphere, but the trouble did not occur with other types of plug. The plugs now used have a life of about 200 hours provided they are cleaned and adjusted at reasonable intervals.

Carburetter heaters were found necessary for Winter flying. They were not used during the first Summer of running but when cold weather set in it was found impracticable to fly

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without them. Mr. Biddlecombe does not expressly state what the trouble was, but it seems safe to assume that the engines suffered from ice or snow in the air passages.

Conclusions as to the Air-Cooled Engines.

As a result of his experience with these engines Mr. Biddlecombe is very emphatic as to the value of the air-cooled radial engine in general and of the Wright Whirlwind in particular for commercial work. His reasons for preferring the air-cooled to the water-cooled type are those which have frequently been advanced by other advocates of the air-cooled engines.

His own summing-up on this particular subject reads :—"In general I think it has been established that the air-cooled engine is more reliable, more adaptable to extreme temperatures, easier to maintain and overhaul, lighter for a given power and more suited to economically correct airplane operation than is the water-cooled."

Three Engines and One Engine.

At the end of the paper the author compares the costs of running the three-engined Fokker and the single-engined machines on the Boston—New York service. In giving these figures he points out that they apply only to this route, and cannot be applied to different conditions.

This particular route is only 220 miles long. The New York terminal is far removed from New York City. The Boston aerodrome is too small for large aircraft and the railroad services between the two places are exceptionally good Under these conditions the line cannot be expected to develop any great volume of passenger traffic, but must regard itself as a link connecting New England with the trans-Continental Air Mail route.

In special circumstances Mr. Biddlecombe believes that the multi-engined type may be immediately profitable. Where a large passenger traffic can be built up because the competing surface transport services are poor, or over country where forced landings are likely to prove disastrous, machines with more than one engine are certainly the right type to use.

But for mail and express goods alone on most overland routes the three-engined type is unnecessary and for a service such as Boston—New York it is a sounder policy to stick to mail carrying and avoid those extra overhead charges which would be necessary for any attempt to develop passenger-carrying as a primary object.

The results of operating the three-engined machine showed that the cost per mile flown including overhead charges exceeded those of the single-engined type by about 36%, whereas the earnings of the larger machines on this service were only 33% greater than those of the smaller types.

The figures for cost for the three-engined machines do not take into account the fact that three engines take longer to overhaul than one, and that as it is impossible to arrange for all three engines to need overhaul simultaneously, this type of machine will almost always spend a longer part of its life out of service for engine overhauls and will thus cost more in overhead charges.

The author has no doubt that multi-engined machines will eventually come into very extensive use. He believes that for the next two or three years commercial air services should be developed mainly by the use of single-engined craft with capacities of from 800 to 1,200 lbs. of paying load, and that the multi-engined type will come into its own when a highly developed traffic and highly organised air routes have been developed by the use of the simpler and cheaper equipment.

AN AMERICAN LIGHT AEROPLANE.

The Central States Aero Company of Davenport, Iowa, have produced a two-seat semi-cantilever monoplane known as the Monocoupe fitted with a 75 h.p. Detroit Air-Cat engine. This engine is an air-cooled five-cylinder radial which was originally designed by Mr. Glen Angle for the now defunct Rickenbacher company.

The fuselage is a welded steel tube structure which is very deep forward in the region of the cabin. Aft of the cabin both top and bottom rails are curved together so as to form a normal vertical knife edge at the rudder post.

The cabin is very roomy with the pilot and passenger seated side-by-side. The normal controls are fitted on the left side but dual controls can be installed if desired. Windows are fitted round three sides of the cabin, those on the sides being half the depth of the fuselage. An entrance door is provided but its actual location is decided by the position of the throttle controls, that it can either be fitted to the port or starboard side according to the desires of the purchaser.

The one-piece wing is attached to the fuselage by four bolts and it is braced to the bottom rails of the fuselage by two steel-tube Vees. The wing is built up of two spruce spars, both of which are spliced at the centre. The ribs are built up of basswood webs with spruce capping strips and the whole structure is internally braced with piano wire and covered with fabric. Rectangular ailerons are hinged direct to the rear spar by three hinges. Two petrol tanks are situated in the wing.

The engine-mounting consists of six steel tubes welded to a mounting ring at four points. The engine, which develops 75 h.p. at 2,000 r.p.m. for a weight of 220 lbs., can be removed from the machine by the undoing of four bolts.

The undercarriage is of the conventional Vee type with a rubber-sprung cross-axle.

The tail-unit is of welded steel tubing and is covered with fabric. The tail-plane is braced with two streamline wires.

Controls are of the flexible cable-and-pulley type with stick control for the elevators and ailerons and pedal control for the rudder.

The first Monocoupe showed such a gratifying performance that it has now gone into production and at present one machine is being produced each week.

Specification.

Span ..... 30 ft. (9.15 m.)	Power loading 15.13 lbs./h.p. (6.9 kgs./h.p.)
Length ..... 19 ft. 9 ins. (5.87 m.)	Speed, max. ..... 102 m.p.h. (163.2 km.p.h.)
Height ..... 6 ft. 3 ins. (1.9 m.)	Speed, stalling ... 48 m.p.h. (76.8 km.p.h.)
Wing area ..... 150 sq. ft. (13.95 sq. m.)	Fuel capacity ... 20 gallons. (91 litres)
Weight empty ..... 650 lbs. (295.1 kgs.)	Fuel consumption 20 miles per gallon. (4.4 miles per litre)
Weight loaded ... 1,134 lbs. (514.8 kgs.)	
Wing loading 7.58 lbs./sq. ft. (37.5 kgs./sq. m.)	

ANGLO-PERSIAN SOCIALISM.

An Australian report states that the Australian Government has entered into an agreement with the Anglo-Persian Oil Company to undertake geological surveys of New Guinea and Papua in the search for new oil fields.

Two geological parties will be provided by the Company and the Royal Australian Air Force will supply an aircraft unit to co-operate with the ground parties. But what is the matter with a commercial air survey. Why Socialise the work?



THE MONOCOUPE.—An interesting American two-seat light aeroplane fitted with a 75 h.p. Detroit Air-Cat Radial engine, which is described above.

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EDUCATING EDMONTON.

The various arguments which have appeared in this paper from time to time on the subject of educating the British Dominions Overseas in the use of British products are well supported by a letter which has just been received from Mr. S. A. Yorke, the instructor to the Edmonton and Alberta Aero Club.

Mr. Yorke, who was a member of the Brooklands Automobile Racing Club in 1910-11, and was well acquainted with the early aviation crowd in the days of the Heath Club, has written to several British manufacturing firms asking them to send to his Club any photographs, books of instruction, rigging diagrams and drawings of their products which are suitable for instruction purposes. This is a very sound idea. If it is well supported, and if the firms are not content merely with sending along their catalogues and letting it go at that, there are evidently opportunities for educating all the aviation people in that vast area to appreciate British aircraft products of all kinds, not only aeroplanes, but engines, fittings, accessories and even raw material.

One strongly recommends to the British Industry the institution of a regular educational campaign of this kind in connection with all Flying Clubs, not only in the British Dominions but wherever they may be founded in foreign countries. The enthusiastic Club member is always anxious for any printed matter of an educative nature, and the impressions which he receives in his aeronautical youth are certain to influence him when he becomes an experienced aviator.

Those who visualise Edmonton, Alberta, as an entirely rectangular prairie town stuck in the middle of thousands of square miles of waving corn, or deep snow, according to season, will find much of interest in Mr. Yorke's letter, which reads as follows :—

The Club has the use of the City of Edmonton Municipal Aerodrome, the first municipal aerodrome licensed in Canada. It also has between 15 and 20 ex-R.F.C., R.N.A.S. and R.A.F. pilots, and about 90 new recruits to aviation.

Edmonton is the supply point for the whole of the Mackenzie River Basin, a district some 2,000 miles from North to South and 500 miles East to West. It was from this district that last year the Canadian Government Wireless Stations under the management of the Canadian Corps of Signals took in $25,649.60 in tolls on commercial messages from business houses in Edmonton and the Yukon operating in the N.W.T. This is one indication of the need for modern methods of accelerating communications in this region.

Edmonton has three coal mines under the city and about eight others within six miles, also natural gas is piped to the city from Viking, about 60 miles away, so that power is cheap for industrial purposes.

There are in Edmonton three shipbuilding yards, which are kept busy building craft from small outboard-motored canoes to 100-ton schooners for the Hudson Bay Co., traders and Eskimo of the river basin and the Arctic coast. Owing to the short season of open water, June to September, the whole North is eager to adopt anything that will increase mobility.

From Edmonton to Aklavik (the mouth of the Mackenzie) at present takes three weeks in Summer by river steamer and three months in winter by dog or pony stage. During the actual freeze-up and Spring thaw all travel is held up.

Seaplanes can start from the Saskatchewan River in the heart of Edmonton and reach Aklavik following the rivers in about 1,800 miles. Supplies of fuel and oil can be arranged along the steamer routes.

Alberta also furnishes a good prospective field for the light aeroplane. There are over 70,000 motor-cars in the province to a population of 697,584 in the 1926 census, with only 270 miles of road that can be used after a heavy rain. In the Summer three days' rain means that all other roads are impassable for a further three or six days until the low places have dried up. A snow storm in the Winter has the same effect.

Commercial travellers, Government inspectors, doctors, and business men would welcome a vehicle that would guarantee them being able to get home for week-ends for certain.

For these and other reasons we believe that aviation is bound to expand enormously during the next few years, so that any British firms that wishes to share in the trade would obtain useful advertising from any information they could send the Club.

In return we would be pleased to give any information that you would like to secure.

SISKINS IN ALBERTA.

About a year ago the Royal Air Force loaned the Royal Canadian Air Force two Armstrong-Whitworth Siskin III single-seat fighter biplanes (Jaguar engines), so as to get information about flying under low temperature conditions with high-powered air-cooled radial engines.

These machines have been operating in Alberta, notably at High River, in the foothills of the Rockies, and on Jan. 8, 1927, they were flown up to Edmonton where they took part in the official opening of the City of Edmonton municipal aerodrome,—to which Mr. Yorke refers above.

This was the first municipal aerodrome in Canada. The Mayor and the City Engineer, together with other civic officials and members of the City Council, welcomed the two Siskins which were flown by Flt. Lt. R. Collis and Flg. Off. C. H. Dickins, R.C.A.F.



STRANGE SURROUNDINGS.—Armstrong-Whitworth Siskins (Jaguars) on Skis at Edmonton.

THE FLYING CLUBS.

The Associated Clubs General Council.

A Meeting of the Sub-Committee was held on Thursday, Dec. 15, 1927, at 2 o'clock. Present: Lt.-Col. M. O. Darby, O.B.E. (Royal Aero Club), in the Chair. Maj. K. M. Beaumont, D.S.O. (London Club). Maj. Gilbert Dennison (Midland Club). Alan R. Goodfellow (Lancashire Club). R. J. Parrott (Hampshire Club). Capt. D. C. Robinson (Bristol and Wessex Club). H. E. Perrin, Secretary.

The Committee considered the Racing Programme for 1928. It was reported that the Air Ministry had agreed to assist at four Official Meetings in the Provinces and one in London.

The Society of British Aircraft Constructors' Challenge Cup.—It was decided that at each of the five Official Meetings there should be an Inter-Club Race, confined to Aircraft belonging to the Club and flown by *ab initio* Pilots. Marks would be awarded for the First, Second and Third places in each event.

The Air League Challenge Cup.—The proposal of the Norfolk and Norwich Aero Club to hold this Race in the Eastern Area on Aug. 6, 1928, was approved.

The London Aeroplane Club.

[Sec.: H. E. Perrin, 3, Clifford Street, London, W.1.]

Report for week ending Dec. 18.

Flying Time 21 hr. 55 min. *Instruction* 9 hr. 15 min. *Soloists* 11 hr. 50 min. *Passengers* 50 min. *Instruction.—With Mr. F. G. M. Sparks*—J. H. Percy, H. M. Samuelson, A. C. M. Jackaman, Maj. E. G. Hume, J. Barros, I. A. Simson, D. S. Schreiber, Rich Hayes, A. G. Fowler, H. B. Michelmore, J. P. Edginger, G. E. Clair, L. Rowson, G. Paul. *With Mr. S. L. F. St. Barbe*—J. A. Simson, Miss Wilson, J. H. Percy, Maj. E. G. Hume, G. C. Gotheridge, F. C. Fisher, L. G. Sykes. *Soloists.*—O. J. Tapper, E. C. T. Edwards, H. M. Samuelson, J. A. Simson, A. C. M. Jackaman, R. Sanders Clark, J. J. Hofer, C. E. Murrell, Rich Hayes, D. P. H. Esler, A. G. Fowler, A. R. Ogston, Sq. Ldr. R. M. S. Veal, Maj. K. M. Beaumont, Lieut. E. L. D. Moore, B. B. Tucker, J. H. Saffery, G. Paul. *Passengers.—With Mr. F. G. M. Sparks*—R. B. Swan. *With E. E. Stammers*—R. B. Swan.

Notes.—On Dec. 16 A. G. Fowler completed the tests for his Aviator's Certificate.

The Yorkshire Aeroplane Club.

[Sec.: Lt.-Col. Walker, The Aerodrome, Sherburn-in-Elmet.]

Report for week ending Dec. 17.

Flying Time 14 hr. 50 min. *Instruction* 9 hr. 55 min. *Soloists* 4 hr. 25 min. *Passengers* 30 min. *Instruction.—With Mr. Beck*—Miss Watson, Messrs. Clayton, I. Thomson, G. Thompson, A. Crowther, H. Crowther, Evans, Humphries, Jackson, Goulden. *With Mr. Stockbridge*—Mr. Ostler. *Solo Instruction.*—Messrs. Ellison, Clayton, H. Crowther. *"A" Pilots.*—Messrs. I. Thomson, Wood, Mann, Lister. *Passengers.—With Mr. Beck*—Mr. Coles. *With Mr. Thomson*—Mr. Beazer. *With Mr. Lister*—Mr. Hepworth. *With Mr. Wood*—Mr. G. Thompson.

Notes.—This has been a much brighter week but unfortunately we had only one machine in action, G-EBRF being at Brough for various modifications, and G-EBSV undergoing a top overhaul.

Mr. Jack Clayton leapt into the atmosphere on Saturday after his eight hours dual done in a very few weeks. He put up an extremely creditable show. Mr. Clayton is a forcible example to what extent one's keenness on flying can develop when bitten by the bug. He has completely sacrificed a prospective Christmas Holiday in Nice in order that he might be able to put in some flying time.

On Friday our Instructor spent the day over at Brough giving instruction to some of our Hull members. As Hull is some fifty miles from Sherburn, the courtesy of Messrs. Blackburns in permitting us to use the aerodrome at Brough helps us considerably in our efforts to meet the convenience of our long-distance members.

A goodly smattering of them, together with our instructor, enjoyed a most interesting address given by Sir Sefton Brancker on "Civil Aviation" at a luncheon at the Guildhall given by the Hull Rotarians.

The Directorate have appointed a new Secretary to the post which

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(Signed) N. BREARLEY,
Managing Director.

CAPT. W. N. LANCASTER

(who is piloting a "Cirrus" engined "Avro Avian")

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has recently been vacated, namely Lieut.-Col. Walker, who begins his duties with the Club on the 14th January. We all wish him a hearty welcome and a successful career with the Club.

The Club will be closed from Dec. 23 to 30 inclusive, and not the 28th as before stated.

The Newcastle-upon-Tyne Aero Club.

[Sec.: A. H. Bell, Cramlington Aerodrome, Northumberland.]

Report for week ending Dec. 17.

Flying Time 8 hr. 40 min. *Instruction* 3 hr. 50 min. *"A" Pilots* 4 hr. 40 min. *Tests* 10 min. *Instruction.*—*With Mr. Parkinson*—Miss Rambaut, Dr. Alderson, Messrs. Griffiths, Stobie, V. Heaton, L. W. Heaton. *"A" Pilots.*—Mr. H. Ellis, Miss Leathart, Mr. Stobie. *Passengers.*—*With Mr. H. Ellis*—Mr. Chapman.

Notes.—The aerodrome will be closed for holidays on Monday, Dec. 26 and Monday, Jan. 2. The weather during the past week has consisted practically throughout of snow, with bad visibility most of the time, though bright spots allowed a little flying on two days.

The members of the Club fully appreciate the honour bestowed upon Col. Sir Joseph Reed, the President, on his having been elected Vice-Chairman of the Council of Associated Clubs. Sir Joseph has taken an active interest in the Light Aeroplane Club movement, having attended all the Meetings of the Council which have been held,—except one during his absence abroad. He is an active member of the Club Committee, supports all efforts to improve equipment or to provide new equipment and in addition, although he does not claim to be now young in years, he flies solo. It is felt, therefore, that Sir Joseph with his knowledge of all branches of the work of the Clubs, will fill the office admirably when occasion arises.

The Midland Aero Club.

[Sec.: Gilbert Dennison, Villa Road, Handsworth, Birmingham.]

Report for week ending Dec. 3.

Flying Time 7 hr. *Instruction.*—*With Mr. McDonough*—Messrs. Lattey, Darlington, Ellison, Duckitt and Wynn. *Soloists.*—Messrs. Ellison, Brighton, Bednell, J. Brinton, and Perry.

Notes.—Mr. A. Ellison did a satisfactory first solo. Rain and continuous low clouds has again restricted flying.

Report for week ending Dec. 10.

Flying Time 8 hr. 35 min. *Instruction.*—*With Mr. McDonough*—Messrs. Wynn, Lane, H. Lattey, G. Robson, Darlington. *Soloists.*—Messrs. Jackson, Willis, King, Brighton, and Bednell. *Passengers.*—*With Mr. Brighton*—J. Moore. *With Mr. Jackson*—Messrs. Brighton and E. Mann.

Notes.—A very successful lunch was given by the Club to Air Vice-Marshal Sir Sefton Brancker on Friday last, with the President of the Club, the Rt. Hon. the Lord Mayor of Birmingham (Alderman A. H. James) in the chair. A number of people prominent in local industries attended. In response to an appeal for funds Messrs. N. B. and J. D. Graham, Proprietors of the Wolverhampton *Express and Star*, have presented a new machine to the Club, and promises of assistance were also received from Messrs. W. Howard, J. McAlpine, Sir Edward Iliffe, Col. Matthew, British Thomson Houston Co., and Lewis's Ltd. [Splendid effort! Good old Wolverhampton!—Ed.]

On Friday evening a very interesting Lecture was given by Sq. Ldr. Johnston in the Midland Institute, Birmingham, on the Flight to India of the Secretary of State for Air.

Report for week ending Dec. 19.

Flying Time 5 hr. 40 min. *Instruction.*—*With Mr. McDonough*—Messrs. E. Wynn, S. Duckitt, S. H. Smith, R. Jackson. *Soloists.*—R. Bednell, W. Swann, B. W. Barton, R. Jackson, E. J. Brighton.

Flying was only possible on two days during this week.

The Hampshire Aeroplane Club.

[Sec.: H. J. Harrington, Hamble Aerodrome, Southampton.]

Report for week ending Dec. 16.

Flying Time 11 hr. 10 min. *Instruction* 7 hr. *Soloists* 3 hr. 45 min. *Tests* 25 min. *Instruction.*—*With Flt. Lt. Thompson*—Capt. Kirby, M.M., R.N.R., Messrs. Kerry, Lowe-Wylde, Hall, Whittle, Swinburne, Dickson, Storey, Berney, Lieuts. Mandeville and Richardson, R.N. *Soloists under Instruction.*—Capt. Kirby, Capt. Molyneux. *"A" Pilots.*—Lt. Oliver, R.N., Flt. Lt. Hamersley, Messrs. Ash, Fagan, Bowen. *Passengers.*—Mrs. Ranald with Flt. Lt. Hamersley and Mr. Christmas with Mr. Ash.

Notes.—"Great Britain has a temporary climate." This was quoted last week in the daily papers as a recent schoolboy howler, but the bright lad who created the expression had a certain amount of justification for his statement, for this week we have experienced rain, high wind, fog and a soupçon of sleet; each for a short time.

One machine only in use this week; our second Moth having the spare engine installed. We are sorry to have to state that Mr. MacCracken, who has been chief ground engineer to this Club since its inception, is leaving us to take up a position which will offer him greater outlet for his abilities. Our only consolation is that it will be nice to be able to carry on a conversation with his successor without having to unravel the brogue. MacCracken takes with him the best wishes of all our members for his future success and happiness.

On the subject of good wishes, here's all the best to all the other clubs for a "bumper" Christmas. This does not apply to landings.

This Club will be closed as far as flying activities are concerned from Friday, the 23rd, to Thursday, 29th, both days inclusive. The Club-house (and bar!) will be open from mid-day till 2 p.m. on Christmas day and from 4 p.m. onwards the remaining days.

The Bristol and Wessex Aeroplane Club.

[Sec.: Col. G. Flemming, Filton Aerodrome, Bristol.]

Report for week ending Dec. 17.

Flying Time 14 hr. 50 min. *Instruction* 4 hr. 25 min. *Soloists* 8 hr. 30 min. *Passengers* 1 hr. 55 min. *Instruction.*—*With Mr. E. B. W. Bartlett.*—Messrs. Arnold, Garnett, T. H. Clarke, R. A. Hall, Walwyn, Farr, Tiarks, and Stephens. *Soloists under Instruction.*—Messrs. Hon. H. C. H. Bathurst, Downes-Shaw, Arnold, Brewer, and Jopp. *"A" Pilots.*—Messrs. C. E. Pitman, R. A. Hall, and Tratman. *Passengers.*—*With Mr. Bartlett.*—Miss Hodges and Mr. Hodges. *With Mr. C. E. Pitman*—Mr. E. Pitman.

Notes.—Saturday was a fine day and most of this week's flying was done. During the earlier part of the week it looked as though the Club would be sending a blank report on this week's flying.

We report this week the arrival of another Moth in the Club hangar, the property of Mr. C. E. Pitman, bringing our private owners up to two. Mr. Pitman brought the machine down from London on Thursday.

The Norfolk and Norwich Aero Club.

[Sec.: H. O. Bennett, 5, Opie Street, Norwich.]

Report for week ending Dec. 17.

Flying Time 8 hr. 25 min. *Instruction.*—Messrs. N. Brett, R. Potter, G. F. Barker, G. Meager, H. Birchall, H. Barratt. *Soloists.*—Messrs. W. A. Ramsay, W. P. Cubitt, R. Moore, H. Birchall. *Passengers.*—Mr. Lovewell-Blake, Mr. A. Sutton.

Notes.—The N. and N.A.C. sends seasonal greetings to all other Clubs and would like to know why Suffolk is equipping itself for comfort and not speed. We shall be pleased to receive their scale of charges for both "Dual and Solo" in the Wheel-Back chairs.

Our Taunton friend has returned to the fold after a long walk and one hopes he will not again litter our patch with the Moth.

A NEW WIDGEON OWNER.

Dr. Whitehead Reid, who for many years before Light Aeroplane Clubs were thought of was one of the most active private owners of aircraft in the country, has just bought a Westland Widgeon with an Armstrong-Siddeley Genet engine.

Dr. Reid has a private aerodrome at Bekesbourne, near Canterbury, where he has kept an Avro and an S.E.5a, both with 80 Renault engines. These engines have been revolving since the dark ages and will now be turned out to the aerial equivalent of grass after long and faithful service.

Dr. Reid is a very sound pilot and it will be interesting to see him handle an up-to-date machine. He is a member of the East Kent Flying Club so he and the Widgeon should be much in evidence at Lympne during the coming season.

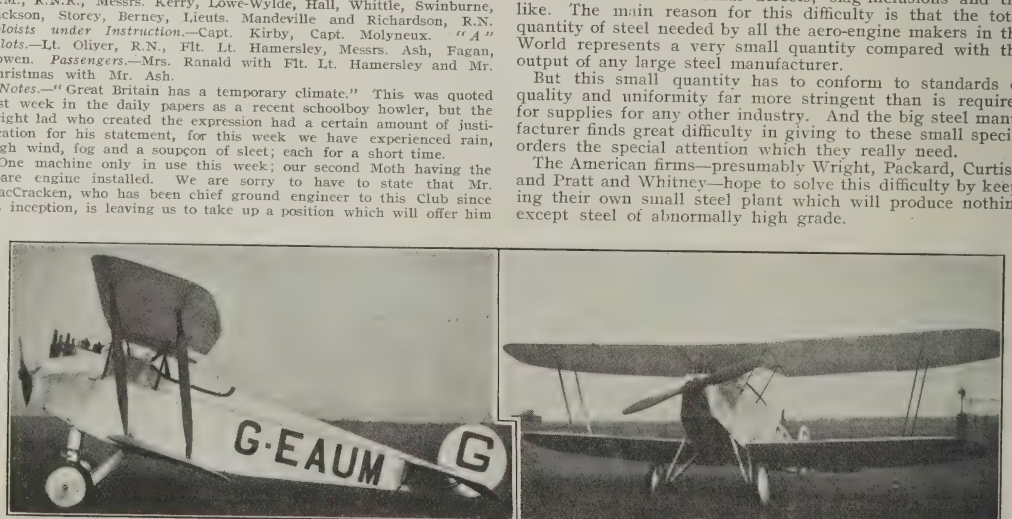
ENSURING GOOD STEEL.

According to an authority usually thoroughly reliable four of the leading aero-engine manufacturers of the U.S. have combined to secure a controlling interest in the steel plant which supplies the Timken roller-bearing works with steel.

One difficulty which all aero-engine makers meet is to get steel of the very high grade necessary for their purposes and free from all internal defects, slag-inclusions and the like. The main reason for this difficulty is that the total quantity of steel needed by all the aero-engine makers in the World represents a very small quantity compared with the output of any large steel manufacturer.

But this small quantity has to conform to standards of quality and uniformity far more stringent than is required for supplies for any other industry. And the big steel manufacturer finds great difficulty in giving to these small special orders the special attention which they really need.

The American firms—presumably Wright, Packard, Curtiss, and Pratt and Whitney—hope to solve this difficulty by keeping their own small steel plant which will produce nothing except steel of abnormally high grade.



A RESURRECTION.—The first Light Aeroplane flying again. The Baby Avro on which Mr. Hinkler did his famous non-stop flight from London to Turin (700 miles) with a 35 h.p. Green engine in 1920, now fitted with a Cirrus II engine by the Gnat Aero Co. of Shoreham, and putting up as good a performance as any modern machine. Mr. Miles says that the machine handles better than anything he has flown.

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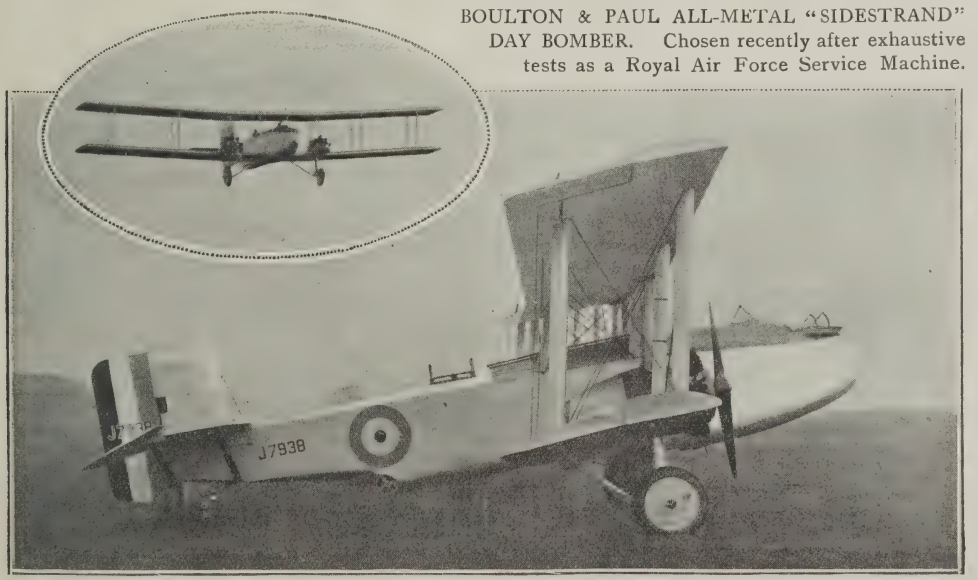
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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

ANALYSIS OF FIGURES FOR THE PAST WEEK.

Trips per Day.—Monday, 15; Tuesday, 17; Wednesday, 8; Thursday, 12; Friday, 15; Saturday, 15; Sunday, 2.

IMPERIAL AIRWAYS LTD.:
London — Paris — Zurich; London — Ostend — Brussels — Cologne: Machines 31, passengers 138, freight 12 tons.

AIR UNION:
Paris—London: Machines 19, passengers 53, freight 15 tons.

K.L.M.:
Amsterdam—Rotterdam—London: Machines 12, passengers 26, freight 4½ tons.

SABENA:
Brussels—London: Machines 10, passengers 13.

DEUTSCHE LUFTHANSA AG.:
Brussels—London: Machines 12, passengers 14.

PRIVATE:
Machines 0, passengers 0.

Total number of trips by British Machines, 31, carrying 138 passengers. Foreign Machines, 53, carrying 106 passengers.

COMPARATIVE FIGURES.

Week ending Dec. 18:
Machines, 84; Passengers, 244; Crews, 149; Total personnel, 393.
Corresponding week, 1926:
Machines, 54; Passengers, 120; Crews, 65; Total personnel, 185.
Corresponding week, 1925:
Machines, 42; Passengers, 110; Crews, 51; Total personnel, 161.
Corresponding week, 1924:
Machines, 35; Passengers, 82; Crews, 39; Total personnel, 121.
Corresponding week, 1923:
Machines, 51; Passengers, 87; Crews, 77; Total personnel, 164.
Corresponding week, 1922:
Machines, 52; Passengers, 168; Crews, 100; Total personnel, 268.
Corresponding week, 1921:
Machines, 49; Passengers, 108; Crews, 73; Total personnel, 181.
Corresponding week, 1920:
Machines, 10; Passengers, 9; Crews, 18; Total personnel, 27.

Croydon Notes.

Wireless has been doing its work well lately, and on Tuesday of last week it gave a convincing demonstration of its usefulness. On that day the visibility was fair generally, but for a radius of about two miles round Croydon there was a thick fog. Incoming machines, both Imperial and K.L.M., with wireless were brought right over the aerodrome and landed safely.

An unfortunate Fokker F.II belonging to the Belgian Sabena, however, had no wireless, and although it passed over the aerodrome and was heard flying round for a considerable time, could not find the aerodrome, and finally landed in a field at Wallington, a mile or so away.

Some comments which one has made on wireless in these columns have given rise to the belief that one has a "down" on W.T., and therefore it is the more pleasant to be able to give to it the credit for such achievements as the above. It would not, however, be right to give the general impression that existing wireless installations are entirely satisfactory.

Considering the many difficulties which aircraft wireless has to face, those responsible for the present state of affairs have reason to feel proud of the progress they have made. There is still need for further improvement, and any record of wireless failure in this column should be taken as a spur to further effort, not as condemnation.

Strange rumours are current at Croydon—as elsewhere—concerning the present whereabouts of Mr. Hinchliffe, of Imperial Airways, lately associated with the doings in Europe of Mr. Levine. A week or two back Mr. Hinchliffe went away on leave. Shortly afterwards word was received that he was ill with quinzy at Amsterdam. Then there appeared in a London evening paper an account of an alleged interview with him in Boston, U.S.A.

Enquiries by cable addressed to Amsterdam produced a telegraphic reply that he was still in bed in Amsterdam, and this was confirmed by a letter undoubtedly written by Mr. Hinchliffe himself, addressed from Amsterdam and received at Croydon on Friday.

Yet knowing all this, one individual at Croydon, who knows Mr. Hinchliffe well, has laid a substantial bet that he was at that time on board the *s.s. Berengaria* steaming east.

W. H. S.

[Probably his friend, Mr. Levine, was deputising for him in Boston.—ED.]

REAL COMMERCIAL AVIATION.

The First National Bank of Wichita, Kan., has expressed its appreciation of Air Transport in general and of National Air Transport Inc. C. Q. Chandler, Chairman of the Board, as well as President of the bank, in a letter to Postmaster Stewart M. Young, of Wichita, showed how the air mail had saved his bank $1,144.27 net in six months. In that period the bank's air mail numbered 2,006 pieces between May 12, 1926, and Nov. 7, 1927. One day's interest at 2 per cent. on the total sum of $25,435,000 was $1,393, from which the extra postage for air mail of $249.43 was deducted to obtain the net saving.

November traffic figures for National Air Transport included 16,558 pounds of overnight mail, 24,010 pounds of trans-Continental mail, or a total of 40,568 pounds, on the New York-Chicago line; and 9,098 pounds on the Chicago-Dallas line.

The total mileage was 145,000 for the month, slightly less than in October, due to bad weather conditions.

A report of the Kansas City post-office on air mail for the period of June 1, 1926, to Oct. 31, 1927, showed a total volume of more than fourteen tons handled. This traffic amounted to 21,512 pounds of outbound, and 8,156 pounds of inbound air mail.

COL. LINDBERGH'S FLIGHT TO MEXICO.

At 12.29 hours on Dec. 13 Col. Charles Lindbergh left Bolling Field, Washington, in the Ryan monoplane "Spirt of St. Louis" to fly non-stop to Mexico City. He arrived at Valbuena aerodrome at 15.39 hours on the following day having covered the distance of approximately 2,000 miles in 27 hours 10 mins.

On his way South through the United States he flew through foggy haze and showers as far as North Carolina. Darkness came at 17.45 hours when he was still in the mountains. The moon rose at 22.00 hours but actual darkness lasted over thirteen hours, and during the greater part of that time he flew by instruments only.

He checked his course along the shores of the Gulf of Mexico by descending to 200 to 300 ft. and following the line of surf but he recognised no landmarks from North Carolina until he saw the oil tanks at Tampico, Mexico, a distance of approximately 1,400 miles.

From Tampico he flew by compass for two hours in fog until he read the name Toluca on a railway station whence he flew direct to Mexico City.

According to *The Times* his landing at Valbuena aerodrome was reminiscent of those which he made at Le Bourget and Croydon last May.

President Calles praised his feat unreservedly and on Dec. 14 issued a statement expressing his admiration of Col. Lindbergh and declaring that the flight would bring immediate and positive results in the form of a "firmer spiritual and material *rapprochement*" between the United States and Mexico.

MEXICAN CIVIL AVIATION.

The following statement is extracted from *Revista Aerea*, an official organ published by the Aeronautical Department of the Secretariat for War and the Marine of the Republic of Mexico:—

"It is announced . . . that the Compania Mexicana de Aviacion Civil is to extend the routes now actually operated to the cities of Matamoros, Nuevo Laredo and San Luis Potosi. With this extension, and taking into account the Tampico and Tuxpan areas already connected by aerial routes there will be formed a great aerial network of routes in one of the richest regions of the Republic and one capable of enormous development."

In the same paper is published a statement made by the Department of Communications and Public Works that between 1919 and October 1927 forty applications had been made for permits for civil flying, including advertising flights and commercial and private transport. In the same period sixteen concessions had been granted for civil flying.

Exhibition flights had been given at 24 different towns in the country during which more than 1,200 passengers had been taken up. Since 1921 a total of 510,000 km. (316,000 miles) had been flown, and 4,461 passengers carried, with only one accident and only one death.

According to the same authority, Herr Fritz Bieler, a German citizen, has received a concession to open a civil flying school in Mexico City. Herr Bieler, who is said to be

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Extract from "The Times," 16-12-27.

FAR EAST FLIGHT AT BOMBAY.

BOMBAY, Dec. 15.—The four R.A.F. Supermarine flying-boats, under the command of Group Captain Cave-Browne-Cave, which left Plymouth on October 17 on a flight to India, Australia, and the Far East, arrived here from Karachi to-day. They covered the 560 miles in seven hours.

Air Vice-Marshal Sir Geoffrey Salmond, A.O.C. Royal Air Force, India, who flew in one of the machines, described the flight as one of the most perfect he had ever made.—*Reuter.*

TOTAL DISTANCE COVERED TO BOMBAY 5,560 MILES. TOTAL MACHINE MILES TO DATE, 22,240 MILES.

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well known as a pilot in Mexico, hopes to open this school on Jan. 1, 1928.

THE AVIMETA MONOPLANE.

The Société Avimeta is completing at its works at Courbevoie (Seine) an interesting all-metal five-seat monoplane on the lines of the now popular American commercial type.

It has been designed by M. Delasalle in direct collaboration with MM. Lepère and Lesage, chief engineers of the Société Avimeta, and only five months have elapsed since design work began.

It is constructed throughout of "Alférium," a light alloy developed by the Etablissements Schneider, the parent company of the Société Avimeta, and in static tests the machine has resisted a factor of safety of 11, lack of sand preventing the continuation of the tests to breaking point.

It is a monoplane with wings of rectangular form braced to the fuselage by two sets of parallel struts.

The cabin, under the wing, has accommodation for four passengers and the pilot's seat, in front of the cabin, is of the type *conduite intérieure*. The undercarriage is of the divided type.

For the initial tests a 120 h.p. Salmson engine is being used, but this will ultimately be replaced by one of 200 h.p., in all probability a Wright Whirlwind. With the 120 h.p. Salmson it is estimated that the machine will lift the pilot and two passengers and will make a speed of 150 km. (93.15 miles) p.h. With the 200 h.p. engine it is estimated that the machine will have a speed of 200 k.m. (124.2 miles) p.h. and will carry a useful load of 900 kgs. (1,980 lbs.).

LORD CARBERY ARRIVES.

On Dec. 13 Lord Carbery, who has been flying from London to Kenya on a Fokker Universal (200 h.p. Wright Whirlwind), flew from Cairo to Khartum, a distance of 1,200 miles, in 12 hours, which included a stop of 1½ hours at Wadi Halfa.

On Dec. 15 he flew from Khartum to Nairobi where owing to petrol tank trouble he has decided to stay.

VICTORIA, B.C., ARRIVES IN A.D.

A company known as British Columbia Airways Ltd. has been incorporated in Victoria, B.C., to undertake the operation of local passenger and freight services between Victoria, Vancouver and Seattle, and a flying school in Victoria.

The company's first machine, a Driggs Dart (75 h.p. Detroit Air-Cat engine), has arrived in Victoria and will be used at the school. This machine is a two-seat biplane constructed by the Driggs Aircraft Corporation, Lansing, Mich., and is one of the first American aircraft of the light aeroplane class to be put into production

On the West Coast they say that in Vancouver they bury their dead while in Victoria they leave them walking about. One is pleased to see that Victoria has at last awakened to the spirit of 1927 A.D.

THE TEST OF TEMPERATURE.

An interesting communication has been received by the Bristol Co. from the engineer who was in charge of the D.H.50 Seaplane fitted with Jupiter Series VI engine with which an aerial service was conducted in Central Africa by the North Sea Aerial and General Transport Ltd. He writes :—

I must say that the Jupiter VI is the sweetest-running and most efficient aero-engine that has been under my care. Our particular engine worked in temperatures varying from 12°C. to 40°C. No repairs were necessary, and only current routine maintenance was carried out.

The engine started every time on one touch of the propeller after two revs. of sucking-in. A Saintain starter was fitted, but it was found that less manual energy was expended in the intense heat by the above method than that required to pump up the air bottle of the starter. Two natives were usually persuaded to do the sucking-in. Standing on the float behind the engine, the propeller was given a slight movement, and with the aid of the starting magneto, never failed to start on the first attempt.

PERSONAL NOTICES.

MARRIAGE.

PALMER—HUGHES-BULLER.—On Dec. 17, in London, Flt. Lt. Charles Dudley Palmer, R.A.F., son of the late Maj. D. C. Palmer, of Clonlost, Co. Westmeath, and of Mrs. Palmer, 69, Courtfield Gardens, London, to Catherine Ann, only daughter of Ralph Hughes-Buller, C.I.E., C.B.E., and Mrs. Hughes-Buller, 83, Iverna Court, W.8.

BIRTHS.

GILES.—On Dec. 12, at Inglewood, St. Peter's Road, Croydon, to Doris May (*née* Barber), wife of Lieut. R. C. Giles, R.M. (att. R.A.F.)—a daughter.

PROCTOR.—On Dec. 13, at a Nursing Home, to Capt. and Mrs. Stuart R. Proctor, of 10, Belsize Lane, N.W.3—a daughter.

PROTHEROE.—At Northampton, on Dec. 12, to Evelyn, wife of Flt. Lt. E. J. Protheroe, R.A.F.—a daughter.

ROSS SMITH.—On Dec. 4, in Toronto, Canada, Angela (*née* Munro), wife of Gerald Grant Ross Smith, D.F.C., A.R.C.S., B.Sc. (London), F.I.C. (Canada)—a daughter.



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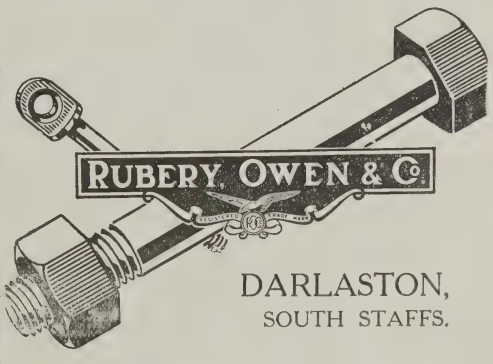
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For the convenience of Advertisers, replies can be received at the office of The Aeroplane, 14, Bream's Buildings, London, E.C.4.
Special PREPAID Rate—18 words **2/-**; Situations Wanted ONLY—18 words **1/-**. 1d. per word after.

TO ADVERTISERS PERSONALLY.—Mid-Pacific opinion is of interest. Here is an extract from a letter from an Officer of the United States Air Corps stationed in Hawaii :—
We all enjoy your magazine out here, especialy some of the "hot" editorials, and I, for one, wish that we had you over in the U.S.A.
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First-Class Aero-Engine Draughtsmen required. Write in first instance stating age, experience and salary required, to Frank B. Halford, Windsor House, Victoria Street, S.W.1.

Required, First-Class Senior Draughtsman with good all round experience of the layout and detail requirements of aircraft design, both all-metal and composite construction. Only first-class men need apply.—Box No. 5437, The Aeroplane, 14, Bream's Buildings, E.C.4.

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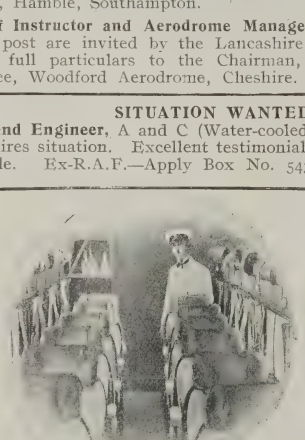
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Edited by C. G. Grey

Vol. XXXIII. No. 26 SIXPENCE WEEKLY. [Registered at the G.P.O. as a Newspaper

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(Kipling.)



FOR AUSTRALIA :—The D.H.61 (450 h.p. Bristol Jupiter VI) taking off at Stag Lane on its first public demonstration. This machine was designed for economical and comfortable transport under Colonial conditions and the machine shown above has been purchased by one of the biggest Australian fruit-preserving firms.—(*" Aeroplane " photograph.*)



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THE AEROPLANE

Incorporating
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VOL. XXXIII. No. 26.

The Editorial Offices of "The Aeroplane" are at 175, Piccadilly, London, W.1.
Telegraphic Address: "Aileron, London." Telephone: Gerrard 5407.
Accounts, and all correspondence relating to Publishing and Advertising, should be sent to the Offices of Aeronautics, Ltd., 14, Bream's Buildings, E.C.4.
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ON HOW TO GET THERE.

Some few weeks ago in this paper one quoted a wise remark, heard in the course of conversation, to the effect that some people who early in life achieve remarkable success and reach what in an aeroplane is called "the service ceiling" at a comparatively early age whereas others are still climbing, either financially or socially or intellectually, at a very advanced age. That is why occasionally a young leader of men does well in war and generally dies or becomes fossilised in middle age, and why, taking the World's history as far back as we know it, the greatest leadership has been shown by quite old men.

The same thing holds good in the learned professions. The greatest judges, the greatest churchmen, the greatest doctors, have all been old men who have preserved their youthful enthusiasm and have added to it the immense capital value of experience. In mere commerce it is the same. A man may start a great business when he is young and may achieve remarkable success up to a point. But so many become either worn out with sheer hard work, or clogged with good living, that at the finish one finds the greatest businesses not only governed but dominated and inspired by old men.

One of the outstanding examples of an old man with a young mind is Sir Alfred Fernandez Yarrow, the famous shipbuilder, who has recently retired from business at the age of 85. Sir Alfred started in business as a shipbuilder at Poplar on the Thames in 1866. Instead of stopping there and fighting against the conditions of Thames shipbuilding which he saw were becoming impossible twenty years ago, he boldly shut up shop in 1906 and after forty years in one spot shifted his whole business bodily to the Clyde, where it still flourishes exceedingly under the direction of his eldest son, while his second son runs with success the Yarrow Yard at Victoria, Vancouver Island, and ensures respect for the name of Yarrow in the Pacific.

A man who, having already achieved success, is able at over sixty years of age to pull himself up by the roots and start fresh obviously has a high "service ceiling." Both at Poplar and on the Clyde the Yarrow-built boat, whether a shallow-draft river steamer or a high-speed destroyer, has always had the same sort of reputation among sea-going folk that a Rolls-Royce car has among motoring people. So most emphatically Sir Alfred may be described as having got there.

Consequently when such a man expresses an opinion on any subject it is very well worth having. It is not the opinion of a doddering old fossil, it is the opinion of an amazingly active and enterprising intellect with roughly four generations of experience inside it. Consequently his opinion on the future of aviation is very well worth having.

The Voice of Experience.

On Oct. 14 *The Daily Express* published an article by Sir Alfred Yarrow under the title "How to Get There." And the youthfulness of the writer's outlook is proved by the fact that he recommends the young man of to-day, if his tastes lie in that direction, to devote himself to aviation. He remarks that a young man on the threshold of life will, if he is wise, seek a vocation that will increase in importance as the years go on, and says:—

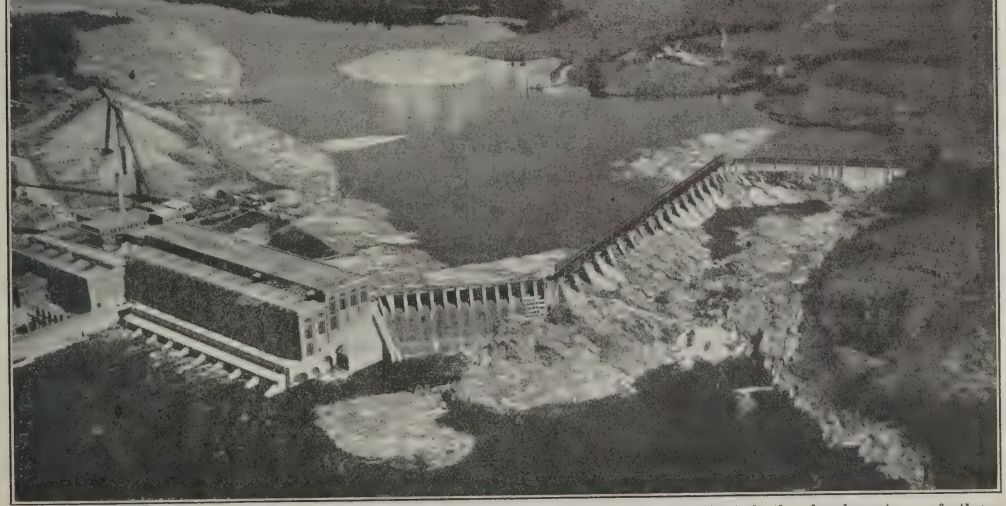
I am frequently asked by young men to advise them about a career, and my reply is invariably this: "If you have any special hobby, try to turn it into your life's work."

A young man is indeed fortunate if he can do this, for it promises both success and happiness. If, on the other hand, he has no hobby, which is unfortunate, I say: "Try to associate yourself with some rising firm, in a rising industry, in a rising country."

If I were a young man to-day, I should not repeat my career as a shipbuilder. It was different sixty years ago when Great Britain had the monopoly of the industry. She is still the greatest shipbuilding country in the World, but her monopoly has gone.

The nineteenth century was the era of fast and still faster ships, but with the beginning of the present century was born a rival which, in many respects, is so superior an instrument of travel and transport that its influence on shipbuilding as a career cannot be ignored. I mean the airplane.

Airplane construction is an industry of the immediate future, and if I could slip back the years I should associate myself with some branch of airplane building.



HARNESSED.—A water-power station at Grand' Mere, Québec. Here are situated the headquarters of the Fairchild Aerial Surveys (of Canada) Ltd.

The spelling "airplane" is a little affectation of that enterprising paper *The Daily Express* and need not be attributed to Sir Alfred. A little later on he says :—

If I became an airplane builder I should have as my aim : "Flying for the Multitude." I should endeavour to become the Ford or Morris of the air. It is a curious thing to me that while airplane builders are now designing to produce the most costly airplane, or the fastest, or the most comfortable, no one has seen fit to produce the *cheapest*—the airplane that the £500 a year man can buy and fly for business or pleasure.

It was the same with motoring. For years the early motorists spent all their energy on producing the fastest car, until it was found that the real future of the car was as a thing for the family and the man of moderate means.

He adds that when he was twenty-one his parents left him two legacies and one ambition. The legacies were a sound constitution and the need to work. The ambition was money,—which, he adds, is not a bad object in life if it is regarded as a means only and not as the end.

Sir Alfred says that as soon as he had made enough money to be clear of financial worries his ambition changed and he wanted to build the fastest boat in the World—(which he did). And he adds :—

I suppose much the same process would operate in my mind to-day. I should first endeavour to secure economic independence, but once that was acquired, I should have as my goal the fastest, cheapest, most comfortable airplane it was possible to build.

There you have a whole text and doctrine and creed, all rolled into one both for the aircraft manufacturer of to-day and for the young man who is keen on aviation in any of its manifestations, either flying, designing or constructing.

A Point of Disagreement.

There is only one point in the whole article on which one feels inclined to disagree from Sir Alfred. He says :—

I often think that if a youth of the nineteenth century were set in modern conditions, he would forge ahead much more rapidly than was possible in my own youth. He was more studious and determined to succeed than is the average young man to-day, who, generally through no fault of his own, but rather through that of over-indulgent parents and often an excess of wealth, lacks enthusiasm and energy.

That is the one paragraph in the article which suggests that Sir Alfred Yarrow is not quite in touch with the younger generation which is starting its business or professional career to-day.

By good fortune one happens to be on friendly terms with quite a number of the young men in aviation to-day ranging from very junior Pilot Officers, R.A.F., junior draughtsmen in aircraft factories, young men who have just left the Universities and are going into business, and even youngsters in Public Schools who are keen on flying, all the way up the scale to people who though still comparatively young already hold responsible positions. And one cannot find any difference whatever between them and the young men whom one knew between twenty-five and thirty-five years ago when one was of similar age.

Personally at the age of twenty or thereabouts one had no particular ambition, one had a rooted objection to hard work other than athletic hard work, and, though one certainly did not suffer from an excess of wealth or over-indulgent parents, one certainly lacked enthusiasm and energy. At the same time one knew studious young men who spent their time improving their minds under the spur of ambition.

And the curious thing is that, looking back on one's acquaintances of those days, most of those earnest ambitious studious youths climbed very rapidly up to about the age of thirty and then stuck, whereas quite a number of one's own comparatively idle companions, whose ideas were chiefly concentrated on sport, have done extraordinarily well in the various professions and businesses into which they have since drifted.

This must not be taken as an excuse for idleness. It is rather a proof of the theory that a slow starter is a good finisher and that the man or horse who gets away from the starting line too fast is apt to run himself to a standstill before he has finished the course.

But chiefly it is a support of Sir Alfred Yarrow's own dictum that if you have any special hobby you should try to turn it into your life's work. For one remembers that most of the companions of one's youth who had the reputation of being lazy dogs were perfectly ready to work all night for a week at a stretch when they were put onto a job which really interested them or appealed to them as a sporting effort on the part of the firms which paid them so badly. What bored us all was routine work. If a man is working at his own hobby it never does become routine work.

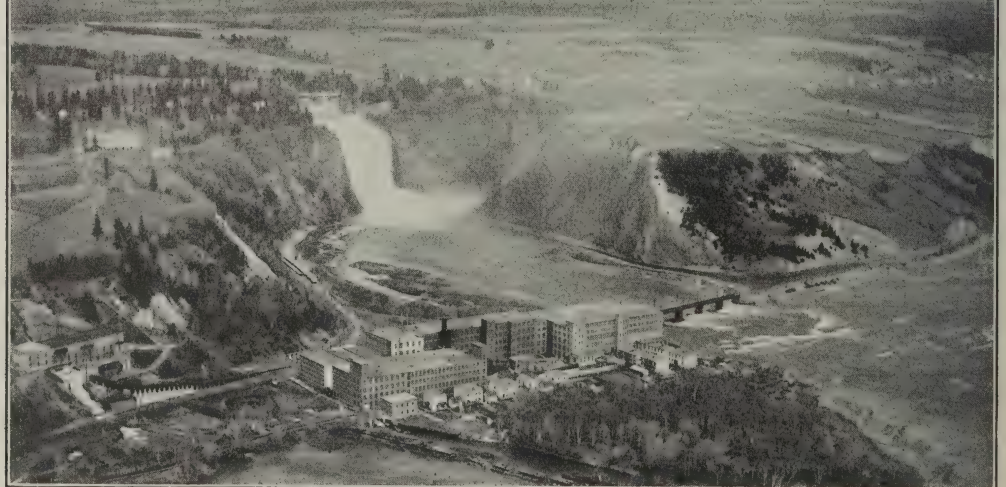
How To Begin.

In these days one is constantly being asked by readers of this paper how to get there in some way connected with aircraft. Some people's ambitions are in the direction of high rank in the Air Force. Some want an opportunity of showing the World how an aeroplane ought to be designed. Some people merely want to make a decent living, either on the commercial or the constructional side of an aircraft firm, because aviation is their special hobby.

In every case the difficulty is to get a start. In this, as in everything else, it is only the first step which costs anything.

If a man is young enough and physically fit and has had a decent education and is of the right class the easiest thing of all is to get into the Royal Air Force by way of Cranwell. The examination is not stiff and the competition is not yet too keen, although year by year one finds more and more candidates coming from the better class of public schools.

If a man is too old for Cranwell but otherwise fairly suitable there is no particular difficulty in getting into the R.A.F. with a Short Service Commission, for, so long as his eyes are perfect, there is no very searching test to discover whether he has any brains behind them. And the young man who goes into the Air Force with a Short Service Commission to-day and, instead of wasting his substance on riotous living, devotes himself seriously to studying Aeronautical Engineering with the help of the Vocational Training system provided



POWER TO SPARE.—The Montmorency Falls, Quebec, the tallest falls in the American Continent. In the foreground are extensive cotton mills operated by water power.

For 1928

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1927 Achievements

Four Royal Air Force Fairey aircraft, each fitted with a Napier engine, flying in formation, flew from Cairo to Cape Town and back without any mechanical trouble. A total of 50,000 engine miles.

Four Supermarine "Southampton" flying boats, each fitted with two Napier engines, engaged on the Royal Air Force flight to Australia and the Far East, reached Karachi, covering 40,000 engine miles without trouble of any kind.

The Schneider Trophy was won for Great Britain by Flight-Lieut. S. N. Webster, A.F.C., R.A.F., flying a Supermarine-Napier seaplane, fitted with Napier engine. Average speed over course of 217 miles, 281·6 m.p.h. Only two machines completed this strenuous race—both with Napier engines.

For speed combined with reliability, to ensure success instal the —

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by a fatherly Air Ministry, will have a very good chance of a decent job when he leaves the Air Force full of the latest practical knowledge in five years' time. By then either there will be a boom in aviation or else there will be a first-class war in full blast.

The man who does not want to go into the Air Force or who cannot get into it for physical or social reasons is faced with a much more difficult job. Quite a number of people have wanted to know whether, if they learn to fly at their own expense, they can hope to get jobs as air line pilots or air survey pilots or something of that sort.

The answer is that unless they have some very unusual qualifications there is not a hope for them. Even learning to fly in the cheapest possible way, as a member of a Club, a man will have to spend somewhere between £25 and £50 simply in getting his "A" Certificate which allows him to fly about the country but not to fly for hire or reward.

Perhaps another £10 or £20 spent on extra flying at 30s. an hour on Club machines may qualify him for the Class "B" Certificate which allows him to fly for hire or reward. But no firm is going to employ a pilot merely on the strength of his holding a "B" Certificate.

No air line or air survey firm is going to employ a man who has had less than 500 hours in the air on at least a dozen different types of machines, unless he happens to be perhaps some lucky mechanic who has flown on that particular firm's own machines and has been allowed to act as assistant pilot and has displayed unusual ability.

The "B" Certificate itself is no more a qualification of fitness to be trusted with passengers than a B.A. degree at a university is a qualification of a man's fitness to be a house master at a first-class school. Only the other day a pilot who had duly passed all the Air Ministry tests for, and had been awarded, a "B" Certificate, crashed a perfectly good aeroplane into a complete write-off and nobody was in the least surprised because from the beginning that particular pilot had never done anything that looked like a first-class landing or even a first-class get-off.

On the other hand there are instances of which everybody closely in touch with aviation knows of young men who have only learned to fly within the last two years turning out to be very much better pilots than any but a few of our war-stained veterans. And some of the best are barred by physical disability from ever getting a "B" certificate, though personally one would much rather fly with a man who has only one eye and a brain behind it than with a man who has two perfect eyes fixed in front of a vacuum.

Probably some of the dozens of pilots who have been trained by the Flying Clubs during the past year or so will prove to be perfect geniuses in the air and will in due time, when the boom comes, be offered very good jobs by aircraft firms, much to the disgust of quite competent pilots who hope to get jobs when they leave the R.A.F.

A Bad Time.

The design and construction side of aviation happens to be just at the present moment the least promising of all branches of aviation,—in spite of Sir Alfred Yarrow's statement that airplane construction is an industry of the immediate future. We are in fact, at the moment, in one of those dead periods which always precede a boom, just like a calm before a storm.

The reason for this is two-fold. It is about equally the fault of the Air Ministry and of the Aircraft Industry itself.

Admittedly the Air Ministry has the best intentions in the World. One of its chief desires in life is to keep every firm in the Aircraft Industry steadily busy so that each firm can give permanent employment not only to its design staff but to all the least of its engineers and mechanics. The idea is to maintain a sound nucleus Industry which can in case of war be expanded immediately to operate a mass-production organisation.

Unfortunately, what with difficulties between the Air Council and the Treasury; arguments between the Treasury and the Contracts Department, and the Contracts Department and the Equipment Department, and the Equipment Department and the Department of Technical Development, and the Department of Technical Development and the Department of Scientific Research: and the further complication of arguments between individual test-pilots as to whether certain machines are or are not nice or safe to fly: and arguments between conservative commanding officers and advanced thinkers as to whether squadrons ought to be equipped with slow steady-going machines such as those which were used in the War or high speed machines such as we shall have to have in any future war: and further discussions as to whether really fast machines can be made safe to fly and land slowly: and quarrels as to whether certain engines which are heavy and reliable are more desirable than others which are lighter and less reliable: and so forth and so on, the Air Force still goes on using D.H.9as and Bristol Fighters, and single-seaters which are only one remove from a Snipe, while modern machines which ought by now to be standard equipment in the Squadrons are still being crashed by test pilots.

The result is that factory after factory to-day is dismissing not only its workshop hands but its design staff and its clerical staff, and there is precious little hope for any ambitious young man at the moment to get a job in an aircraft factory as a tracer or a junior draughtsman, or as an improver in the works of any firm where he is likely to learn the latest theory and practice of aircraft production.

Just by way of illustrating the argument one may recall the fact that the Avro Ava, which appeared at the R.A.F. Display in 1926, after having proved itself to have the highest performance of any known twin-engined bomber, was crashed by an R.A.F. pilot when delivering it back to the Avro Aerodrome at Hamble soon after the Display, and although it is still unbeaten as a twin-engined land machine for its own particular job it is still not in production.

Parenthetically it was only the other day that one awakened to the fact that the brilliant piece of flying which saved the Ava from a bad crash owing to trouble in the engine installation the day before the Display, as was duly related at the time in The Aeroplane, was done by Flt. Lt. Webster, who has since made Walsall famous by winning the Schneider Trophy.

A fate somewhat similar to that of the Ava seems to have befallen the De Havilland Hound, which, as readers of The Aeroplane know, has a speed of about 170 m.p.h. as a two-seater General Purpose Machine, which means that it is approximately 20 miles an hour faster than the single-seat pursuit-ships which are supposed to catch attacking enemy aircraft of its class.

The Hound was apparently turned down as a General Purpose two-seater because it was unable to carry in the slim fuselage which is largely accountable for its speed all the gadgets, spare wheels, with which some people in the R.A.F. like to load their machines, and since it was turned down for that class apparently those in high places have been arguing whether it can be of use as a high-speed Day Bomber.

This seems to be fairly obviously a job for which it is suited, apart from the facts that its speed makes it valuable as a pursuit ship and that its manœuvrability makes it equally suitable for Army Co-operation or any other two-seater job. But although this unusually efficient machine has been in existence for a year and a half the sole and only existing example of it was crashed on its own aerodrome the other day by an R.A.F. pilot who was returning it with thanks from a test establishment.

Learn From Experience.

These experiences really ought to be rather useful to the Aircraft Industry. They do in fact teach in a new form the old lesson,—"Put not your trust in princes (*id est* Governments) nor in any child of Man." That is why one has suggested hereinbefore that the Aircraft Industry itself is equally to blame with the Air Ministry for its present lack of orders. If it relied less on Government orders and more on its own enterprise it would get there quicker.

The Trade as well as the young man who wants to get there should pay attention to Sir Alfred Yarrow's statement that if he became an airplane builder he would have as his aim "Flying for the Multitude" and would endeavour to become the Ford or Morris of the air. The truth is that the real future not only for the individual but for the firm who wants to get there is to produce, as Sir Alfred Yarrow says, "the airplane that the £500 a year man can fly for business or for pleasure."

Of course it is a very good thing that British Aircraft, like so many other British products, have the reputation of being the best in the World. But in these days, the World is being so well educated by the West Atlantic English in the United States that everybody expects speed and comfort combined with cheapness. And if we do not provide aircraft in that class then the Americans will provide it.

Our Chance.

Nevertheless, if we get going seriously now there is still time for us to get there before America floods the World's markets. The huge advertisement which British aircraft have got from winning the Schneider Trophy has raised our prestige enormously. That, coupled with our reputation for turning out the best stuff, assures that our aircraft will receive proper consideration wherever we offer them for sale. People are even prepared to pay bigger prices for our aircraft than they will for any foreign make.

Only the other day a business man who has visited nearly every country in the World in the interests of British aircraft told one that in all foreign countries the figures which the British manufacturer gives for the performance of his machine are accepted as being accurate whereas those of practically every other country are suspected.

Our manufacturers may quote a performance which is lower than that quoted by constructors of other nations. But the foreign buyer has now learned that our figures do represent what our machines do with full load and standard equipment whereas they have also learned that



PRODUCTION

As the result of the adoption of the Fairey IIIF by the British Air Ministry as well as by Colonial and Foreign Governments, the Fairey Aviation Company are now producing the General Purpose and Fleet Air Arm types of this aircraft in large quantities. This building activity is the result of producing a high performance aircraft capable of undertaking the varied requirements of the Royal Air Force (including both its Naval and Military spheres of operation) and to fulfil these requirements without loss of performance.

The Fairey Aviation Company, Limited,
Hayes, Middlesex.

FAIREY
AIRCRAFT

those quoted by constructors of other nations are only attained either with the machine stripped of all its military load or under some special conditions which do not exist in everyday use,—such as using different airscrews for speed tests and climb tests.

This lesson has been learned about military machines. And it will influence the attitude of buyers of civil machines whether for air lines work, survey work or private flying.

Canadian Experience.

A few days ago one had a letter from a very experienced pilot in Canada giving a few details of what has happened to various American aircraft which have been bought by Canadian operators and Government departments because they were cheap, and spare parts were easy to get. The law of libel prevents one from going into detail, but one hears of engines pulling themselves out of their mountings simply through bad structural design in the mounting; of brand new machines which are cheap and badly finished and no good for rough work; of boat hulls which fall to pieces after an ordinary bad bump; of machines which vibrate horribly with even the best engines.

Obviously, after such experience, Canada is a market for sound stuff at a reasonable price provided always that our firms have depots in Canada and give Service.

It is perfectly true that there is not a big market in Canada, or anywhere else, at the moment. But there is going to be a big market in every country in the World. And the nation which gets there first is the nation which is going to have the market.

A Wrong Policy.

The present system by which the Trade exists solely on Government orders and regards the manufacture of civil aircraft as a sideline is altogether wrong and unhealthy. If the Trade is wise it will lay its plans to get there without Government orders.

In fact actually the best thing that could happen to the Trade in the long run would be a complete stoppage of Government orders for a couple of years. Then the only way in which to achieve the commercial manufacture of aircraft would be by the manufacture of commercial aircraft. More and more as time goes on we are seeing the soundness of Mr. Churchill's pronouncement just after the War that "Civil Aviation must fly by itself." A spoon-fed Industry is as unhealthy as a spoon-fed child.

Obviously our great aircraft factories of to-day laid out as they are to produce war machines of the most expensive kind, with all the enormous overhead charges attendant on Government inspection of war material, simply cannot produce commercial aircraft at a profit and sell them at a price to compete with American goods.

One is perfectly sure that the right way to go to work is for any existing firm which aspires to build commercial aircraft to register a separate company for the purpose and set it to work in a little cheap workshop right away from the existing factories,—at any rate as far away as the opposite side of the aerodrome.

All the specialised knowledge of the allied armament firm would be available, and all the cost of acquiring that knowledge would be borne by the war machines,—and by the British Taxpayer. The commercial aircraft factory should cost practically nothing except the cost of labour and material.

New Ideas Needed.

Apart from that we still need new ideas in the design and manufacture of commercial aircraft. That is where the Trade provides an opening for the young man who has made his hobby into his life's work. Almost every senior designer of aircraft in the World has been so brought up on the design of war machines that he is unable to see aeroplanes in any other light.

Because he has always designed an aeroplane wing with about two thousand different parts in it he is incapable of visualising an aeroplane wing made of only two parts. His mental attitude is very much like what might have been that of a motor designer of 1902, who had always been brought up to think of a cylinder as a separate cylindrical entity, if anybody had shown him an eight-cylinder single-block casting of to-day. The designers of the aeroplane for the use of the £500-a-year man have got to start thinking along new lines.

The Coming Boom.

Of course, the aircraft boom which is coming along will start with aeroplanes of the type of to-day, just as the motor boom which actually began long before the War started with cars which to the present day motorist would look comic. And when that little boom starts there will be opportunities for clever young men who are now at school or at universities to get into the aircraft factories as designers.

They will have a pretty hard fight to get the senior draughtsmen and designers to regard their designs as anything else but crazy. But if they happen to have real ability and perseverance,—combined with that all-important quality, tact,—they will get their ideas accepted in the end.

Judging by one's own experience as a very bad draughtsman but a pretty fair designer thirty years ago, half their brightest ideas will be turned down as useless, probably because they are useless at the time though they may be valuable five or ten years later. And probably most of the other half of their bright ideas will be appropriated by their seniors who will use them to their own advantage without giving credit to the originator.

But one has always held that the man who can invent one thing can invent another. And it is always worth an inventor's while to give away his first few inventions to his employers simply as an advertisement for himself, carefully retaining blue prints of his original drawings with the dates certified by an independent witness to be used in evidence, if necessary.

Those young men whose life work is their hobby will eventually produce the designs for the aerial Morris or Ford which Sir Alfred Yarrow foresees. And then we may fairly claim to have got there.

In the meantime any young man who feels that he is a born engineer will do well to spend his time and money in studying such aeronautical engineering as exists to-day. Revolutionary ideas are not the result of direct inspiration. They are produced by a good mental digestion, which absorbs all existing knowledge, rejects what is unsound, and then sub-consciously arrives at something which looks new, but is probably only a modification in practical form of an idea which was absurd and unworkable years before.

The World is waiting for air transport. And if we set to work the right way, we English will provide it, just as in the past we provided the World with ships and railways.—C. G. G.

MR. GREY'S ACCIDENT.

The staff of The Aeroplane regrets to announce that Mr. C. G. Grey had a serious accident on the morning of Wednesday, Dec. 21. Leaving the flat in which he was staying over Christmas at 8.30 a.m. he slipped on the ice-covered path, fell heavily, and fractured his thigh.

So far all reports as to his condition are reassuring, but he will necessarily be laid up for some weeks.

Until such time as he is able to deal with correspondence himself, will the many who have already heard of his accident and have written letters of condolence accept a vicarious expression of thanks?

AIR SURVEY DEVELOPMENTS.

The Aircraft Operating Co. Ltd. has just secured two new air survey contracts, one in 'Iraq and another in Northern Rhodesia.

The former is for an air survey, for the purposes of pump irrigation, of some 1,000 square miles of territory adjacent to Baghdad. Under this contract the company are to make a mosaic, to a scale of 6⅓ inches to the mile, of an area extending north and south of Baghdad, the southern of the area being bounded on the west side by the Tigris, which river, after running through the central portion of the area, then forms the eastern boundary of the proposed survey.

This survey is of particular interest in view of the many developments which are taking place in that country not only in connection with the reclamation of low-lying marsh country, but in oil-field development.

An expedition is now being formed and it is expected that work will begin in the late Spring of next year.

The company is just on the point of completing the air survey for the Rhodesian Congo Border Concession, Ltd. It is also making a survey of the Zambesi River for the Government of Northern Rhodesia, and is taking aerial photographs of Livingstone, Lusaka, and Broken Hill for town-planning purposes. An extension of the Zambesi survey along the Lungwebungu River in Angola is to be made for the Benguella Railway Co. and a further contract for the taking of aerial photographs of a part of the boundary between Northern Rhodesia and the Belgian Congo for the Boundary Commission.

The new Rhodesian survey is for the preparation of maps of some 12,000 square miles of unmapped territory for the Government of Northern Rhodesia. These maps will be made from photographs already taken by the company in this area.

The expansion of the work in Rhodesia since the company started on its original contract for the Rhodesian Congo Border Concession Ltd. demonstrates the value of aerial survey.

Hitherto the Aircraft Operating Co. has concentrated on work in Africa. The securing of the new contract for 'Iraq is the first step in the policy of extension towards India and the East and it is expected that this first contract will be followed by several other contracts in the neighbourhood when the value of the work is fully realised by the competent authorities.

"LW" The record of a veteran MOTH



Captain W. J. McDonough, the Chief Instruc or of the Midland Aero Club with G-EBLW.

¶ G-EBLW was delivered to the Midland Aero Club on the 25th September, 1925, the ninth Moth with a Cirrus engine to leave the de Havilland Works.

¶ Her Certificate of Airworthiness was issued on the 9th Sept., 1925, and renewed without a replacement being necessary on the 29th October, 1926.

¶ She has just been overhauled and repainted for the first time since she left the Works and, even now, it has not been necessary to refabric the planes. Her Certificate of Airworthiness was again revalidated for a year on the 15th December, 1927.

¶ As the "Solo" machine of the Midland Aero Club "LW" has flown 543 hours without a forced landing and no less han 18 pupils have taken their pilots' licences on her.

¶ During her whole period of commission THE ONLY REPLACEMENTS used in her maintenance have been TAIL-SKID SHOES AND SHOCK ABSORBERS.

¶ The record of "LW" is typical of the service which Moth Landplanes and Seaplanes are giving all over the World.

This statement is made with the knowledge and authority of the Midland Aero Club.

THE DE HAVILLAND AIRCRAFT CO., LTD.

STAG LANE AERODROME, EDGWARE, MIDDLESEX.

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FOR COLONIAL AIR TRANSPORT.



THE D.H. CANBERRA.—The latest De Havilland commercial aircraft. This machine, fitted with a 450 h.p. Bristol Jupiter VI engine, will carry 8 passengers plus 600 lbs. of goods at 126 m.p.h.—(*"Aeroplane" photograph.*)

The De Havilland Aircraft Co. Ltd. may justly be regarded as leaders of the British Aircraft Industry in regard to civil aircraft. It is fair to say that they almost alone of that Industry have taken civil aircraft seriously and have by their efforts built up a foreign and Colonial market for British civil machines. The D.H. Moth—which has by now spread all over the world—is the most striking of their successes in this direction, but does not stand alone.

The famous D.H.50 at present maintains a large proportion of the Australian civil air services, and is the mainstay of the Czechoslovak State Air Lines. This machine was one of the first of modern moderate power machines of a type suitable for general commercial service on lines where heavy traffic could not be expected, and for this purpose it still compares remarkably well with many of the much-boosted American civil aircraft.

The D.H.61, or Canberra, a first specimen of which has just been completed, is in a sense a follow-up of the D.H.50. It is a machine of greater power, load capacity and performance of a type which may well replace the D.H.50 on services which have been developed by the use of that earlier type.

Fitted with a 450 h.p. Bristol Jupiter VI engine the D.H.61 carries 1,900 lbs. of pay load—or over 4½ lbs. per h.p.—has the low landing speed of 46 m.p.h., together with a top speed of 126 m.p.h., a performance which is not exceeded by any existing civil aircraft to-day. And what makes this even more noteworthy is the fact that the D.H.61 as a design has been in existence for some considerable time awaiting a demand for a machine with these characteristics.

The first machine of the type has been built to the order of MacRobertson and Co. Ltd., of Adelaide, South Australia. This firm is one of the great Australian fruit-preserving firms, and the machine is to be used as transport for members of the company's staff who have to cover very large distances—often in districts very poorly served by surface transport—in the course of their duties.

As the type is precisely what the present Australian air lines will need when their traffic is too heavy to be handled by their present machines, this sample ought to be only the first of a series of similar machines for Australia, and the type ought to have a wide future, not only there but also in Canada and others of the Dominions overseas.

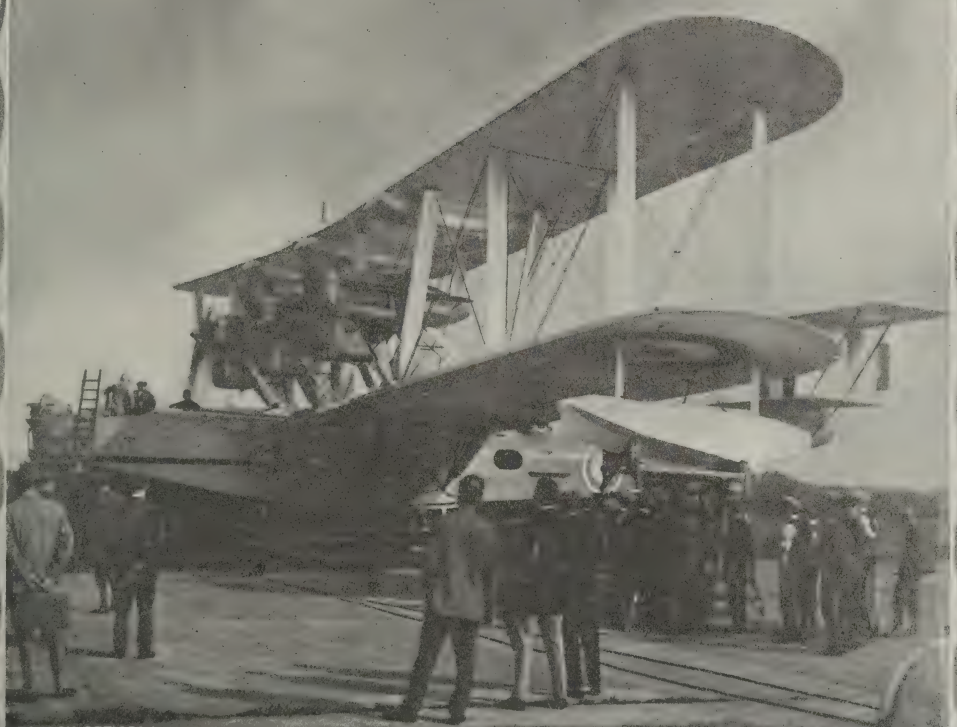
This new machine is an equal-winged biplane with folding wings, a split-axle undercarriage, a comfortable cabin having room for eight passengers, accommodation for a very large amount of luggage and freight, and fuel for 475 air miles.



THE D.H. CANBERRA.—On the left a nose view of the machine folded and on the right a close-up view showing the access to the front luggage compartment. —(*"Aeroplane" photograph.*)

Blackburn
- IRIS -

The BLACKBURN IRIS II has proved itself the fastest flying boat in the fleet. It is claimed to have better all-round performance, endurance, and stability than any boat yet built. The seaworthiness of the IRIS is remarkable, and a revelation to all who witness its manœuvres. This flying boat is admirably suited for both commercial and naval purposes.



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THE BLACKBURN AEROPLANE & MOTOR CO., LTD., OLYMPIA, LEEDS, ENGLAND. TELEGRAMS: "PROPELLERS, LEEDS."

B 33

The Wings.

The wings, of equal span and chord, top and bottom, and slightly staggered, are built on spruce spars with spruce girder ribs. Steel tube drag-struts and standard cable drag wires of very ample size are fitted. There are two pairs of spruce interplane-struts on each side, with the usual streamline wire lift, landing, and incidence-bracing. De Havilland differential ailerons are fitted to the top and bottom wings.

The wings fold about hinges on the rear spar, thus making it possible to stow the machine in the least possible space.

The Fuselage.

This is of the usual De Havilland form of construction—spruce longerons and struts with ply-wood covering. Behind the engine-mounting is a large luggage compartment. Behind this is the cabin.

The cabin has one seat right across the fuselage which is built into—or rather out of—the front bulkhead of the cabin. The space below the seat is actually part of the front luggage compartment. This seat holds two, with a great deal of room to spare, or three, with reasonable comfort. At the rear of the cabin are two seats—one fixed and one folding to clear the cabin doorway, and between these two sets are two removable arm chairs. Thus the cabin seats six with ample room, and will take eight without a crush. Carrying eight passengers the machine has capacity for 600 lbs. of luggage, or freight.

All seats are upholstered in leather and are padded with a spongy rubber material, and sliding windows, at a height which gives the seated passengers an excellent view are fitted over the whole length of the cabin.

The cabin is warmed by hot air taken from a muff on the engine exhaust pipe, and is quite free from draughts and surprisingly quiet. Passengers who were taken for a flight on Tuesday last, before the thaw, found the cabin quite comfortably warm—which is more than most places were on that day.

Behind the cabin is a large luggage compartment, and above it, the pilot's cockpit. This is arranged very high in the fuselage, with a fairing which slopes up quite appreciably, so that despite the far-back position the pilot has an excellent view.

Undercarriage.

The undercarriage of the D.H.61 is of the split-axle type permitting safe landing in long grass or rough ground. The two half-axles are attached each to the lower corner of the fuselage on the side opposite to that on which it carries its wheel, so that the axles cross. A drag-tube runs from the end of each axle forward to the nose of the fuselage, and a telescopic tube runs up from each axle-end to the fuselage below the front wing-spar joint.

Tail Unit.

This is of conventional form. The horizontal tail-plane is adjustable in the air, elevators are unbalanced, and the rudder has a balance of the horn type.

Power Plant.

The Jupiter VI engine is mounted on a flanged duralumin back plate carried from the front bulkhead of the fuselage by a tubular steel system of struts. In general design this mounting resembles that used on the D.H.66. A standard Jupiter exhaust-ring is fitted, and the exhaust-pipes are led away below the body, passing through the cabin air heaters. A Bristol oil-cooler is carried above the fuselage just behind the engine.

A petrol tank, of wing-like section, forms the whole of the top centre-section, and gives a gravity-feed to the engine. The lower surface of this tank is raised somewhat above the chord line of the wings, to improve the pilot's field of view directly forward.

A spinner is fitted to the airscrew boss, which leads up to the profile of the exhaust-ring. There is no cowling over the engine itself, and that over the space between the front bulkhead and the engine back-plate is readily removable for access to magnetos, carburettors, and other engine auxiliaries. A hand-starting gear with a handle projecting from below the body is fitted.

Specification.

Span ..... 52 ft. (15.85 m.)	Power loading 13.8 lbs./h.p. (6.37 kg./h.p.)
Length ...38 ft. 9 in. (11.8 m.)	Max. speed ..... 126 m.p.h. (202 km./h.)
Height ..... 13 ft. (3.97 m.)	Landing speed ..... 46 m.p.h. (74 km./h.)
Wing area ..... 613 sq. ft. (57 sq. m.)	Economical speed 105-110 m.p.h. (170-178 km./h.)
Weight empty ..... 3,465 lbs. (1,572 kg.)	Climb at sea level ... . 650 ft. per min. (200 m./min.)
Weight loaded ... 6,200 lbs. (2,820 kg.)	Ceiling ... 15,000 ft. (4,600 m.)
Fuel ..... 80 galls. (363 litres) =610 lbs. (282 kg.)	Range ... 475 miles (765 km.) =4½ hours.
Pay load ...1,900 lbs. (862 kg.)	
Wing loading 10.1 lbs./sq. ft. (4.95 kg./sq. m.)	



FOR SERVICE OVERSEAS.—The De Havilland 61 or Canberra which has been built for commercial transport in Australia.—(*"Aeroplane" photograph.*)

Cairo to Nairobi

2,650 miles in 3 days ON SHELL

MR. John Carberry made this long flight on a Fokker Universal, with a Wright Whirlwind Engine. He used nothing but ***ordinary*** Golden Shell Oil, and straight Shell Motor Spirit unmixed with dope or any other fuel.

"Oil fine—never exceeded sixty-five (degrees) hottest conditions—normal fifty-eight," says Mr. Carberry in a cable from Nairobi.

The route lay entirely within the tropical and equatorial zones, but the engine ran faultlessly on the Shell anti-carbon pair.

For speed, power and a clean engine, standardise on

SHELL
Motor Oil and Petrol

The Anti-Carbon Pair

THE ROYAL AIR FORCE.

The London Gazette.

Dec. 20.

General Duties Branch.—The following are granted S.S. comns. as Plt. Offs. on probation with effect from and with seniority of Dec. 9:—R. R. Carroll, R. A. Chignell, D. S. Collins, F. B. S. Downey (Sec. Lt., D.L.I., T.A.), H. G. Hamilton, J. E. McCann, J. F. Macdonald (Sec. Lt., H.L.I., T.A.), D. Menzies, G. F. Overbury, J. D. Richardson, J. L. Smallwood, F. L. Truman, S. R. Ubee.

The following Plt. Offs. on probation are confirmed in rank:—A. K. K. Calwell (Sept. 18); M. Griffiths, C. K. T. Hughes (Sept. 29).

The S.S. comn. of Plt. Off. on probation T. A. D. Hetherington is terminated on cessation of duty (Dec. 21).

Medical Branch.—Flg. Off. (Temp. Lt., Dental Surgeon, General List, Army) H. J. Eagleson is dismissed the Service by sentence of General Court-Martial (Dec. 12).

Reserve of Air Force Officers.—General Duties Branch.—The following are granted comns. in the Special Reserve as Plt. Offs. on probation:—J. S. Davidson (Nov. 21); G. D. S. Horsfall (Nov. 25). Flg. Off. J. V. Hay is transferred from Class B to Class C (Sept. 18). The following Flg. Offs. relinquish their comns. on completion of service:—K. Don (Mar. 25); H. Jones (Dec. 16). The following Flg. Offs. relinquish their comns. on completion of service and are permitted to retain their rank:—W. E. Townsend (Oct. 24); W. J. Cooke (Dec. 5). Flg. Off. G. S. Smith, M.B.E., relinquishes his comn. on account of ill-health and is permitted to retain his rank (Nov. 9).

Auxiliary Air Force.—Accountant Branch.—No. 602 City of Glasgow (Bombing) Sqdn.—Plt. Off. H. G. Davidson resigns his comn. (Dec. 21).

Appointments.

Week ending Dec. 23.

General Duties Branch.—Group Captain A. Fletcher, C.M.G., C.B.E., M.C., to No. 21 Group H.Q., West Drayton, on appointment as Air Officer Commanding, 27/9.

Squadron Leader L. H. Slatter, O.B.E., D.S.C., D.F.C., to Superintendent of R.A.F. Reserve, Hendon, 25/1.

Flight Lieutenants J. I. T. Jones, D.S.O., M.C., D.F.C., M.M., to R.A.F. Depot, Uxbridge, 3/12. R. Jones, to R.A.F. Depot, Uxbridge, 24/11. R. S. Sugden, A.F.C., to No. 502 Ulster (B) Sqdn., Aldergrove, 20/12. H. S. P. Walmsley, M.C., D.F.C., to No. 503 (B) Sqdn., Waddington, 20/12. G. G. Banting, to No. 5 F.T.S., Sealand, 20/12. G. Archer, to No. 2 F.T.S., Digby, 20/12. H. N. Thornton, to No. 1 Air Defence Group H.Q., 20/12. B. E. Embry, A.F.C., to No. 1 F.T.S., Netheravon, 20/12. E. Brewerton, D.F.C., to No. 29 Sqdn., Duxford, 1/1.

Flying Officers R. G. Hart, M.C., to E. and W. School, Flowerdown, 6/12. D. Robinson, to No. 43 Sqdn., Tangmere, 22/11. A. S. Lewis, to R.A.F. Depot, Uxbridge, 24/11. T. B. Fenwick, to No. 503 (B) Sqdn., Waddington, 15/12. C. H. Brill, to R.A.F. Training Base, Leuchars, 20/12. D. Macfadyen, to R.A.F. Cadet College, Cranwell, 20/12. F. J. O'Doherty, to No. 2 F.T.S., Digby, 20/12. E. A. McKinley-Hay, to No. 600 City of London (B) Sqdn., Hendon, 20/12. V. C. Taylor, to No. 23 Sqdn., Kenley, 20/12. H. A. Howes, to No. 2 F.T.S., Digby, 20/12. E. J. George, to R.A.F. Training Base, Leuchars, 20/12. R. J. Legg, to R.A.F. Cadet College, Cranwell, 20/12. R. R. Nash, to R.A.F. Station, Duxford, 20/12. G. A. V. Tyson, to No. 32 Sqdn., Kenley, 20/12.

Pilot Officers W. B. Causer, to R.A.F. Depot, Uxbridge, 29/11. H. R. R. Ackerley, S. O. Bufton, P. H. E. Grisewood, D. B. McGill and G. Wood, to R.A.F. Depot, Uxbridge, on appointment to S.S. Comns., 16/12.

Medical Branch.—Flight Lieutenant J. O. Osburne, M.B., to R.A.F. Station, Upper Heyford, 2/1.

Stores Branch.—Squadron Leader A. W. Turner, D.C.M., to No. 4 Stores Depot, Ruislip, 3/12.

Flying Officer M. H. Jenks, to Station H.Q. and Storage Section, Andover, 15/12.

Accountant Branch.—Flight Lieutenant A. J. Moore, to R.A.F. Depot, Uxbridge, 3/12.

Chaplains Branch.—The Rev. R. M. Bankes-Jones, M.A., to Station H.Q., Hinaidi, 3/12.

Commands and Staff.

Group Captain Albert Fletcher, C.M.G., C.B.E., M.C., whose appointment as Air Officer Commanding No. 21 Group is dated Sept. 27, 1927, belonged to the original Air Battalion, Royal Engineers, and was transferred to the R.F.C. in 1912. He learnt to fly at Montrose on a Maurice Farman biplane and his Royal Aero Club Certificate No. 519 is dated June 16, 1913. He served with the R.F.C. throughout the War and was awarded the Military Cross in 1916 for distinguished service in the Field. In June, 1918, he was appointed a Commander of the Order of the British Empire for his work as Director of Air Quartermaster Services at the Air Ministry. In the King's Birthday Honours of 1919, the announcement was made of his appointment to be a Companion of the Order of St. Michael and St. George in recognition of distinguished services during the war. He was appointed to a permanent commission in the R.A.F. with the rank of Wing Commander in August, 1919, and promoted to the rank of Group Captain in June, 1922. In 1920 he was posted to H.Q., Inland Area, for Technical Staff Duties and in September, 1921, he was appointed to command the 'Iraq Aircraft Depot, Hinaidi. In September, 1923, on his return to the Home Establishment, he was appointed to command No. 1 Stores Depot, Kidbrooke.

R.A.F. Cadetship.

The following are declared by the Civil Service Commissioners to be the successful candidates at the competition held last month for admission to the R.A.F. Cadet College, Cranwell, but their admission is conditional on their having passed a medical examination. The names are in order of merit:—

Elsmie, G. R. A., Heber Percy, J., Dru-Drury, E. S., Pickthall, M. V. J., Fraser, B. A., Jones, B. H., Teileman, A. G., Grierson, J., Taylor-Gooby, F. J., Humphreys, J. V., L'Estrange, E. F. J., Heycock, G. F. W., Wallace, R. L., Clarkson, R. T. P., Gibson, G. H., Biddulph, R., Power, L. W. C., McIntyre, R. V.

King's Cadet who has Qualified.—Heath, P.

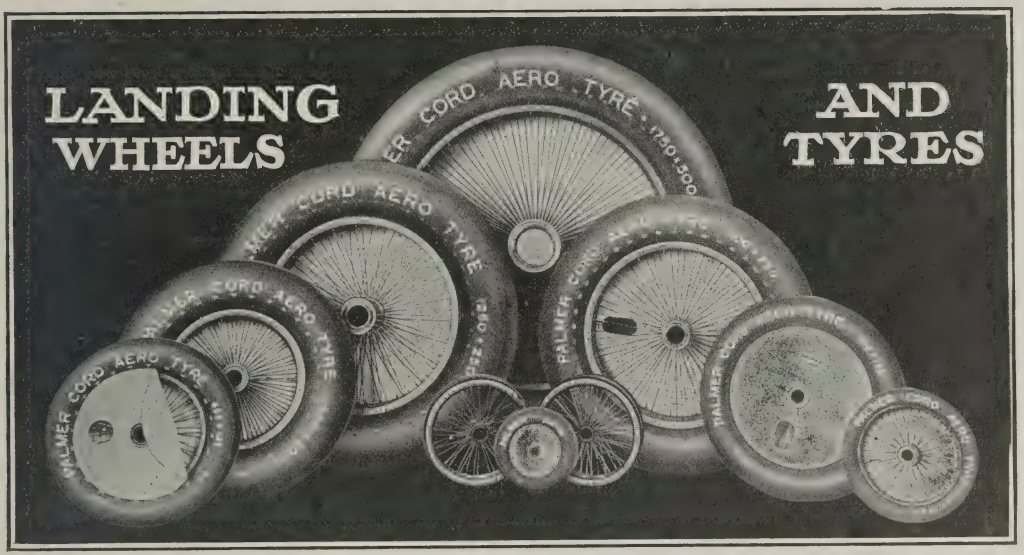
The Inspection at Halton.

On Dec. 20 the inspection of the R.A.F. apprentices and the passing out of the entry of January, 1925, took place at No. 1 School of Technical Training, Halton. The inspection was made by Marshal of the Royal Air Force Sir Hugh



THE MARCH PAST.—Marshal of the Royal Air Force Sir Hugh Trenchard, G.C.B., D.S.O., Chief of the Air Staff, taking the Salute on the occasion of the Passing-out Inspection of the Aircraft Apprentices of No. 1 School of Technical Training, R.A.F., Halton, on Dec. 20.

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Tyre Size	Wheel No.	Hub Length	Hub Bore	Track Line
		m/m	m/m	m/m
375×55	168	111.12	25.4	Central
300×60	16	111.12	25.4	Central
450×60	30	89.	31.75	Central
,,	172	130.	38.09	Central
575×60	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	90	150.	38.09	Central
650×65	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
600×75	21	160.	28.	Central
,,	180	150.	38.09	104/46
,,	186	120.	34.92	Central
,,	190	150.	38.09	Central
700×75	78	178.	44.45	132/46
,,	79	178.	44.45	Central
,,	100	178.	38.09	132/46
,,	101	178.	31.75	132/46
700×100	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
700×100	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
650×125	119	178.	55.	132/46
,,	147	178.	55.	Central
,,	188	120.	34.92	Central
750×125	77	178.	44.45	132/46
,,	92	185.	55.	135/50
,,	95	185.	55.	Central
,,	99	178.	38.89	132/46
,,	112	150.	38.09	Central
,,	176	178.	44.45	Central
,,	179	178.	55.	132/46
800×150	161*	185.	55.	135/50
,,	162*	185.	55.	Central
,,	163*	185.	66.67	135/50
,,	169†	185.	55.	135/50
,,	177	185.	55.	135/50
,,	183	185.	55.	Central
,,	211*	185.	60.32	135/50
1000×150	167	185.	55.	125/60
,,	174	250.	80.	Central
,,	182	185.	55.	Central
,,	187	220.	66.67	Central
,,	201	185.	60.32	125/60
1000×150	210	185.	60.32	Central
1000×180	148	220.	80.	Central
,,	149	185.	55.	Central
,,	155	220.	66.67	Central
,,	166	185.	55.	125/60
900×200	107	185.	55.	Central
,,	108	185.	55.	125/60
,,	128	220.	66.67	Central
,,	137	250.	80.	Central
,,	157	185.	80.	Central
,,	202	185.	60.32	Central
1100×220	134	220.	66.67	Central
,,	136	250.	80.	Central
975×225	192	185.	60.32	Central
,,	194	185.	55.	125/60
1250×250	133	250.	80.	Central
,,	154	304.8	101.6	Central
1500×300	115	304.8	101.6	Central
,,	126	304.8	152.4	Central
1750×300	139	400.	152.4	Central
,,	191	350.	150.3	Central
1750×350	193	400.	125.	Central

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(365)

Trenchard, Bt., G.C.B., D.S.O., and the programme was altered slightly owing to the bitterly cold weather. Sir Hugh dispensed with the inspection on the parade ground, which was covered with frozen snow, the march past therefore beginning immediately on his arrival at 1.45 hours. Sir Hugh was accompanied by Group Capt. N. D. K. MacEwen, C.M.G., D.S.O., Deputy Director of Training, and by other staff officers, and was received by Air Vice-Marshal C. L. Lambe, C.B., C.M.G., D.S.O., A.O.C. R.A.F., Halton.

There was on parade a total of 2,434 airmen from the three Wings, each of which has a maximum strength of 900. Their discipline and bearing, in spite of the cold, were the subject of commendation.

At 11.20 hours the Chief of the Air Staff proceeded to the workshops to inspect work done by the apprentices, and spent about half an hour in this way, closely questioning several men in the various shops.

In the carpenters' shop, there was seen the Halton "Mayfly" (Bristol Cherub engine), the light aeroplane which made a gallant attempt to win the King's Cup. This machine, designed and built entirely within the Camp, has won many prizes at the various Light Aeroplane Club races, and made a speed of 83.5 m.p.h. in the King's Cup race.

The distribution of the apprentices' prizes took place in the gymnasium.

Air Vice-Marshal Lambe in his report said that in estimating the standard of passing, there should be taken into account the three considerable breaks in the course of training, viz., the reduction of the educational scheme in 1926, the complete redrafting of the advanced training syllabus, and the reorganisation of the entries in January, 1927. Of the 350 apprentices originally enlisted, 305 have passed out, 40 have been posted to Flowerdown for training as wireless operator mechanics, 12 have been discharged on medical or compassionate grounds, by purchase, or as unlikely to become efficient airmen, and 7 have been transferred from other entries. Details of the trades in which the 305 have qualified were given. The behaviour of the unit has been very good, but it is not possible to instil discipline while the number of N.C.O.s is 12 per cent. below a barely adequate establishment. For the same reason, drill has not reached the standard required, although a select number who formed the Guard of Honour to H.R.H. Princess Mary recently were brought to a very high standard. As regards games, the shortage of N.C.O.s and frequency of postings prevent a thorough organisation of the exercises of all apprentices. There are only three qualified P.T. instructors for the whole unit. Keenness in technical training has been marked, and bench work has reached a particularly high standard. The entry for the carpenter-rigger trades was 50 per cent. greater than in previous entries. As regards educational training, of the apprentices examined last July, 11 obtained over 75 per cent., thus qualifying educationally for a pass with credit; 85 failed to obtain 50 per cent., the percentage now required for qualifying as L-AC. The health of the entry has been uniformly good.

Cadetships have been offered to Leading Aircraftmen W. McKechnie, C. J. Giles, A. Earle, and W. Sawyer; and 15 apprentices have been retained for the advanced course for corporals. The results of the final examinations, conducted by the Central Trade Test Board, are:—Apprentices classified as L-AC., 32; as AC.1., 114; as AC.2., 152; failures, 3; not examined, 4.

Sir Hugh Trenchard said that he had listened with interest to the report. He had been to many stations in England lately and had seen there a large number of apprentices who had been at Halton and were now out in the squadrons. This was the sixth entry to pass into the R.A.F. from Halton. Including those now passing out, there are about 4,000 men who were trained either at Halton or Cranwell, and he hoped that they were beginning to make their weight felt in the Service. With regard to ceremonial functions and drill, he did not want a lot of drill, but he wanted the best that could be got from intelligence. It should be looked upon as an honour to be chosen for such a function as the Guard of Honour at the Cenotaph. With regard to training, technical and educational, he did not quite understand why there should be a difference; to him it was all education. He proceeded to give figures showing how the standard had improved, and exhorted those remaining behind to continue that improvement. The percentage of L-AC.'s should be at least 25, that of AC.2.'s not more than 20 per cent., and failures practically non-existent.

Sir Hugh Trenchard presented the following prizes:—Grand aggregate of marks in all subjects: No. 365737, AA. A. E. Earle. Educational subjects: No. 365963, AA. T. D. Terdery. Best fitter (aero-engine): No. 365789 AA. A. J. Randell. Best fitter (driver, petrol): No. 365893, AA. F. Mathews. Best Coppersmith: No. 365837, AA. T. B. Francis. Best carpenter-rigger: No. 365940, AA. A. Syles. Sir Charles Wakefield scholarship: No. 365737, AA. A. E. Earle. Sir Hugh congratulated the four apprentices who had been offered cadetships, and addressed them privately afterwards.

G. H. H.

The Electrical and Wireless School.

On Dec. 20 Air Vice-Marshal Sir John Higgins, K.B.E., C.B., D.S.O., A.F.C., Air Member for Supply and Research inspected the Aircraftmen and Aircraft Apprentices under training at the Electrical and Wireless School, R.A.F., Flower Down, on the occasion of the passing-out of the January, 1925, Entry of Aircraft Apprentices, at Flower Down.

Sir John Higgins was accompanied by Air Commodore B. C. H. Drew, C.M.G., C.B.E.

The Aircraftmen and Aircraft Apprentices marched past the saluting base by Squadrons and considering what little time is devoted to drill at Flower Down the standard of marching and drill discipline was extremely high.

After the Parade Sir John Higgins made a tour of the workshops and inspected the Aircraftmen and Apprentices under training at work and examined specimens of their work.

The men and boys trained at Flower Down undergo a comprehensive course of instruction in electrical and wireless mechanics. They start by learning how to use their tools and then they make the tools they will have to use, screw-drivers, centre-punches, scribers, etc. The course combines lectures with practical work with about one hour of lectures to every five hours of practical work. After they have made their tools they go on to simple fitting and turning and work in steel, brass and ebonite and eventually make all the component parts of wireless sets, valve-holders, condensers and variometers, etc. They also learn the construction of generators and their application to aircraft and car work. They do practical work on service sets and machine and car wiring up to the complete wiring of aircraft. From the beginning of their instruction they learn Morse and pass out at 25 words a minute. The signalling course also includes visual signalling by lamps and with flags. Before their instruction is finished the men and boys are sent to the Detached Flight at Worthy Down where they experience practical air operating. In the Detached Flight all pupils have to do two hours in the air, transmitting and receiving messages from the ground. They also have experience in wireless watch-keeping and the School is equipped with ten out-stations, replicas of wireless out-stations used in time of war.

In addition to the general education classes which are part of the training there are voluntary classes in the evenings which are exceptionally well-attended and a scientific circle



THE RADIO SCHOOL.—Aircraftmen under training at the Electrical and Wireless School, R.A.F., Flower Down, marching past the saluting base at the inspection on Dec. 20. The Aircraft Apprentices are the rear ranks without rifles. Air Vice-Marshal Sir John Higgins is taking the salute and behind him are Air Commodore B. C. H. Drew, Commanding the Group, and Group Capt. R. P. Ross, Commandant of the School.



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SALAAMS FROM PESHAWAR.—The Christmas Card of the Warrant Officers, Flight Serjeants and Serjeants' Mess, R.A.F. Station, Peshawar, which includes H.Q. No. 1 (Indian) Wing and No. 20 (Army Co-operation) Squadron.

which is also voluntary and is lectured to by outside Professors and by some of the staff of Winchester College.

The Aircraftmen and the Aircraft Apprentices receive practically identical instruction but they live in separate camps and have separate sports grounds, recreation rooms, canteen, etc.

There are also courses at Flower Down for Wireless Officers and one long course and two short courses for officers are held there every year. Officers on the wireless courses visit Rugby Wireless Station, the Royal Aircraft Factory at Farnborough and other places of special interest.

After the inspection of the workshops Sir John Higgins presented the various prizes won by the Aircraft Apprentices during the year. This ceremony took place in the gymnasium.

Group Captain R. P. Ross, D.S.O., A.F.C., A.D.C., Commanding the Electrical and Wireless School, read extracts from his report. He said :—

This is the seventh Passing Out Inspection of Aircraft Apprentices who have been trained at Flower Down.

Altogether there are 276 Aircraft Apprentices under training at Flower Down (exclusive of this Passing Out Entry). 194 of these are being trained as Wireless Operator Mechanics, and 82 of these are being trained as Electricians.

The standard of discipline and drill maintained by the present Passing Out Entry has been very good.

The Aircraft Apprentices of this Entry have made satisfactory technical progress throughout, and it is considered that they will all make good as craftsmen in the Service. The whole of the Syllabus of Instruction has been covered, and every Aircraft Apprentice has successfully operated Wireless Instruments in the air. Voluntary evening classes have been very well attended.

The General Education standard has been satisfactory. 31 of the Apprentices have attained the standard necessary to enable them, without further educational tests, to muster in their trades as Leading Aircraftmen.

The health of the Aircraft Apprentices has been very good on the whole.

This Entry includes a number of good "all-round" athletes. Several competed very successfully in the Station Athletic Sports. Two have represented the Station in the R.A.F. Athletic Championships, and one in particular gives promise of developing into a first-class long-distance runner. The training in the gymnasium and on the miniature rifle range has been keenly pursued.

Of the present Entry 4 have passed out as Leading Aircraftmen, 20 have passed out as Aircraftmen First Class, 13 have passed out as Aircraftmen Second Class. There have been no failures.

A Cadetship has been offered to 365466 AA. Wicks, F., who is also the winner of the Hyde-Thomson Memorial Prize.

The following are retained for the advanced course with a view to passing out as Corporals: 365943 AA. Simpson, N. F.; 365913 Osborne, J. H., wins the Air Ministry prize for the highest aggregate marks in all sections; 365943 AA. Simpson wins the Air Ministry prize for technical subjects; 365644 AA. Ainsworth, F. H., wins the Air Ministry prize for educational subjects.

Sir John Higgins said that the Commandant's Report was very satisfactory. Every boy who had passed through this course of training was capable of being a really useful Aircraftmen for Service work. When they got to their Units they would find that they would still want a good deal of practical experience and they would be thown on their own responsibilities but they should not be discouraged if they were not greeted as the living wonders of the Squadrons from the minute they joined. They had every chance to do well.

After presenting the prizes Sir John Higgins presented the Higgins Athletic Shield to two representatives of No. 3 Flight who won the Shield this year with a higher percentage of points than in any previous year.

The Higgins Shield was presented in 1922 by Sir John Higgins for competition in various athletic events among the Aircraft Apprentice Units in the R.A.F. The competition has been so organised that every boy no matter his age can help towards winning the Shield for his Flight. Sir John Higgins congratulated the winning Flight and said that their victory showed that the team spirit of the Unit was very high indeed.—C. M. MCA.

The Post-War (R.A.F.) 'Iraq Dinner.

It is proposed to hold the third post-war R.A.F. 'Iraq Dinner at the Hotel Cecil at 7.45 p.m. for 8.15 p.m. on Friday, Feb. 10, 1928.

Tickets must be applied for before Feb. 1, and a

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remittance must accompany the application, together with a statement of the Unit with which the officer served.

The dinner will be solely for R.A.F. officers, and officers attached to the R.A.F. who have served in 'Iraq since the Armistice.

Air Vice-Marshal Sir John F. A. Higgins, K.B.E., C.B., D.S.O., A.F.C., has kindly consented to take the chair, and Air Commodore H. C. T. Dowding, C.M.G., to act as vice-chairman. Air Marshal Sir John M. Salmond, K.C.B., C.M.G., C.V.O., D.S.O., A.D.C., has intimated his intention of being present.

Tickets, 13s. 6d. each, exclusive of wines, may be obtained on application to Flt. Lt. A. L. Chick, A.F.C., Room 564, Air Ministry.

Historic Aircraft.

A reader of THE AEROPLANE is anxious to get into touch with anyone who owns or knows of any old war-time service aircraft which could be borrowed or hired for a short period. The machines need not be airworthy, but should be capable of being taxied along the ground or even towed. Humorists should refrain from suggesting the equipment of certain R.A.F. Squadrons. Letters should be addressed C. M. McA., THE AEROPLANE, 175, Piccadilly, W.1.

THE SCHNEIDER TROPHY.

The following conversation took place in the House of Commons on Dec. 19:—

Lt.-Com. Kenworthy asked the Secretary of State for Air if he is now in a position to make any further statement as to the action to be taken by the Air Ministry to retain the Schneider Cup next year?

The Secretary of State for Air: The hon. and gallant Member will no doubt have seen the statement issued by the Air Ministry on Friday. There has been general agreement in aeronautical circles for a considerable time past that the holding of the contest for the Schneider Trophy annually is not in the best interests of civil aviation, since an interval of a single year is insufficient under modern conditions to secure the progress in the design of marine aircraft which was the express object of the trophy's founder. This view has previously been urged by the delegates of the Royal Aero Club to the *Fédération Aéronautique Internationale*, but has not hitherto found general acceptance.

An understanding has, however, now been arrived at with the Italian Government that they will support the project for a biennial instead of an annual contest in future, and that accordingly, providing the other countries which are possible competitors agree, no contest shall be held in 1928. The United States, French and German authorities have been consulted informally and are understood to be in concurrence.

I may add that in discussing this question with the Italian authorities I made it clear that Great Britain was prepared to compete next year if this was desired by the other countries concerned. Whether the contest is in fact held in 1928 or 1929, it is my intention to take all action necessary to ensure that this country is worthily represented and no effort spared to secure another victory.

Lt.-Cmmdr. Kenworthy: May I ask the right hon. Gentleman if the latter part of the answer means that the Air Ministry will give support to the competition, and whether the pilots of the Royal Air Force willl be allowed to compete?

Sir S. Hoare: It will be premature to go into details, but we do intend to give it support. We shall consider a question of that kind, and there is ample time for further consideration. In the meantime we are proceeding at once with the development of machines and engines.

TORPEDO-CARRYING AIRCRAFT.

The paper by Major F. A. Bumpus, chief designer of the Blackburn Aeroplane and Motor Co. Ltd. on The Development of Torpedo-Carrying Aircraft, read before the Royal Aeronautical Society on Dec. 15, covered a very wide ground, and was of exceptional interest.

It opened with a description of the duties for which such aircraft are designed, an outline of their advantages over surface torpedo craft, and a description of the tactics of aerial torpedo attacks.

In a second section the history of torpedo-carrying aircraft in this country, from the 1914 Short seaplanes with crutches for 14-inch torpedoes up to date.

The main and final section discusses the problems of design which these craft present. These problems arise not only from their primary duty of carrying and launching a torpedo successfully, but also because torpedo-carrying machines are required to operate from aircraft carriers.

This second requirement puts very severe restrictions on the length of run which may be taken to get off loaded, and also limits the maximum permissible dimensions of the machines, and so forces the designer to use a smaller wing area than would otherwise be desirable.

The paper, together with a lively discussion which followed it, will appear in due course in the Journal of the R.Ae.S. and I., and it should then be read not only by aircraft designers, but also by all R.A.F. officers.

FOKKER DEVELOPMENTS IN THE U.S.A.

According to *The Times*, the Fokker Aircraft Corporation has been formed, with a capital of $1,000,000 (£200,000), to build a factory at Glendale, West Virginia, for the quantity production of Fokker Universals and other aircraft. The new corporation has taken over the Atlantic Aircraft Corporation, of which M. Fokker was chief designer and President. Mr. Lorillard Spencer has been chosen President of the new company.

A MOTH FOR PORTUGAL.

There is at present at Stag Lane Aerodrome a D.H. Moth bearing the registration C-PAAA. These strange marks are borne by the first machine to receive Portuguese civil registration. This particular Moth has been sold to Mr. C. E. Bleck, of Lisbon, and Mr. Bleck intends to fly to Lisbon on the machine early in the New Year.

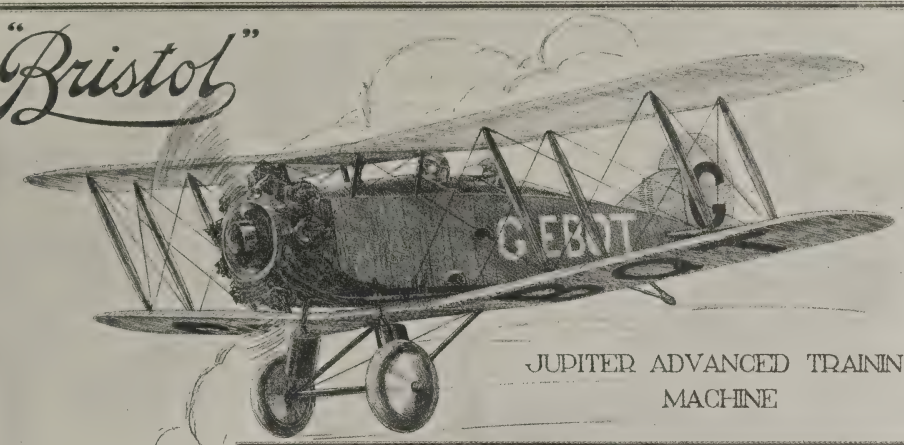
Mr. Bleck is a member of a well-known Anglo-Portuguese family which has combined residence in Lisbon for generations with a very close association with the country of their origin. They have wide commercial interests in Portugal and among these interests the importation and sale of motor-cars has in recent years found a place.

In 1912 when an Avro biplane was delivered to the Portuguese Government, the party in charge of that machine found a Mr. Bleck taking a great deal of interest in their doings, and they received from him a great deal of valuable help and much very generous hospitality. The Mr. Bleck above-mentioned is presumably of a younger generation than the one of 1912, but one can say from personal knowledge that the first Moth to go to Portugal has fallen into the hands of a family who will give it a thoroughly good show.



PORTUGAL'S FIRST.—A D.H. Moth ordered by Mr. Bleck, of Lisbon. This is the first aeroplane to bear Portuguese civil registration marks.

"Bristol"



JUPITER ADVANCED TRAINING MACHINE

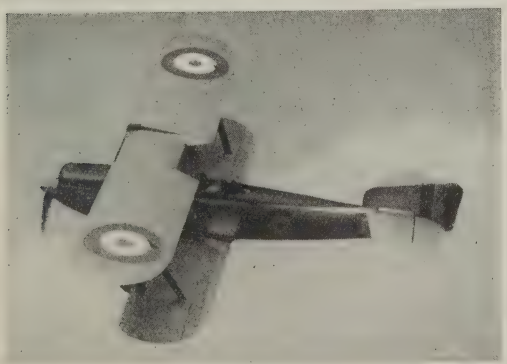
This machine is the standard aircraft used in two of the most important flying schools in Great Britain, where its high flying qualities and its very real economy are appreciated.

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Flying School: Filton Aerodrome.

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A and P Tubes are used

How Aircraft Tubes are Made

1.—THE MATERIAL

The first essential in the making of Accles & Pollock Tubes for aircraft is the selection of the right material The "blooms" (as the original rough tubes are called) must be of material having the properties specified by the British Engineers' Standards Committee, and approved by the Air Ministry The specifications have been arrived at after tests carried out by experts of the Air Ministry, supplemented by years of experiment and research by the tube maker They cover the requirements of every tubular component of aircraft, and include various grades of steel, from the low carbon steel which is used for parts not required to withstand stress—such as high-tension conduit tubes, etc.—to the Nickel Chrome Alloy Steel used for Axles and Tail Skids, which have to take the shocks of landing

"IF IT'S MADE WITH STEEL TUBES,
IT'S BEST MADE BY A AND P"

ACCLES & POLLOCK, LIMITED

OLDBURY BIRMINGHAM

SANTIAGO—LA PAZ.

On Dec. 21, M. Costes and Lieut. de Vaisseau Le Brix, on a Breguet XIX (500 h.p. Hispano-Suiza engine), flew from Santiago, Chile, to La Paz, Bolivia, over the Andes, a distance of approximately 1,200 miles, in 12½ hours.

It will be remembered that some weeks ago they flew from Paris to Natal, Brazil, in two stages, one of which was across the South Atlantic, and thence by easy stages, to Buenos Aires. They are now making a tour of South America in the interests of the French Aeronautical Industry.

FRANCE—INDO-CHINA.

On Dec. 19 a Lioré et Olivier biplane (two 450 h.p. Gnôme-Rhône Jupiter engines), piloted by Lieut.-Col. Antoinat and carrying Lieut. Mion and Serjts. Bernache-Assolant, Lefèvre and Bosson, left Le Bourget in an attempt to fly to Hanoi, French Indo-China, in five days. It arrived safely at Rome late the same day and left at midnight for Athens.

Apparently owing to unfavourable conditions over Greece no stop was made at Athens, but the flight was extended to Adalia, in Asia Minor, where a safe landing was made. The distance from Rome to Adalia is 1,200 miles.

TOWARDS AUSTRALIA.

On Dec. 19 Mr. W. N. Lancaster and Mrs. Keith Miller who are attempting to fly to Australia on the Avro Avian (A.D.C. Cirrus II engine) "Red Rose," arrived at Calcutta from Patna.

On Dec. 21 they flew from Calcutta for Akyab and on the following day left for Rangoon. Engine trouble forced them to land several miles short of Rangoon in a rice field near a Burman village.

CZECHOSLOVAK LIGHT AEROPLANE RECORDS.

At 08.34 hours on Dec. 8 two Avia monoplanes (60 h.p. Walter engines) took off from Prague in attempts to beat the existing endurance records for single- and two-seat light aeroplanes.

The Avia B.H.11 single-seater, flown by Capt. Cerny, chief pilot of the Skoda Works, was fitted with a boosted engine and carried 304 kgs. of petrol and 22 kgs. of oil.

The Avia B.H.9 two-seater, piloted by Capt. Vlcek, and carrying as passenger Lieut. Chrastina, was a standard Czechoslovak Army machine and carried 200 kgs. of petrol and 15 kgs. of oil.

The B.H.9 was the first to land, which it did at 19.00 hours after having covered 1,305.5 kms., some 160 kms. in excess of the previous record. Two hours later the B.H.11 landed after having covered a total distance of 1,740.7 kms.

Both machines landed, owing to darkness and bad visibility, with sufficient petrol for a further two hours' flight.

THE FLYING CLUBS.

The Suffolk Aeroplane Club.

[Sec.: Courtney N. Prentice, Hazeldell, Stowmarket.]

Report for week ending Dec. 18.

Flying Time 3 hr. 45 min. *Instruction.—With Mr. Lowdell*—Dr. Sleigh, S. Schofield, G. Smith. *Passenger.—With Mr. Lowdell*—C. Hanson. *Soloists.*—Dr. Jas. Sleigh, S. Schofield, C. N. Prentice.

Notes.—Heavy falls of snow and slight engine trouble has held up flying this week. The Club will close down for the Christmas Holidays on Dec. 22 and will reopen on Dec. 28.

The following announcement appeared in *The Times* on Dec. 21:—

The Suffolk and Eastern Counties Aeroplane Club Limited has just been registered as a private company, with offices at the Buttermarket, Stowmarket, Suffolk. The directors are Dr. J. C. Sleigh, Albany Cottage, Dedham, Essex; Mr. H. Billinton, Old School House, Benhall, Saxmundham, Suffolk; and Mr. C. N. Prentice, Hazeldell, Tavern Street, Stowmarket. The capital is £100.

The Cinque Ports Flying Club.

The Rt. Hon. Earl Beauchamp, K.G., P.C., K.C.M.G., T.D., Warden of the Cinque Ports, has kindly consented to become President of the East Kent Flying Club and in his honour it has been decided to change the name from "East Kent Flying Club" to "Cinque Ports Flying Club."

Earl Beauchamp has generously contributed £100 towards the purchase of shares in the proposed Company and up to date over £200 worth of shares have been applied for. A Prospectus will be issued at the beginning of the New Year and in the meantime any persons who wish to support the scheme should communicate with the Hon. Sec., Mr. R. Dallas Brett, 114, High Street, Hythe, Kent, from whom all particulars can be obtained.

THE AUSTRALIAN FLYING CLUBS.

The Sydney (N.S.W.) Club.

After the three original Moths of this Club had completed 1,650 hours' flying they were withdrawn from service for complete overhaul. These are now back in service and together with the Moth "Oswald Watt," which went into service on June 7 and the Moth X "Ross Smith," which was christened on Sept. 24 by Lady Keith Smith, the Club has five machines in first-class condition for the use of Club members. Nevertheless representations have been made to the Civil Aviation Department for the loan of a further Moth as it has been impossible to meet the demands of pilot members for solo flying.

Since its inception and up to the end of September, 7,653 flights, totalling 1,613 hr. 53 min., have been made on Club machines. This is divided up as follows:—Dual instruction, 675 hr. 2 min; Pupils Solo flying, 280 hr. 57 min.; and Pilot Members flying, 588 hr. 38 min.

Plans are being made for the extension of the Club House to include bedrooms, dressing rooms, etc., for the provision of further hangar accommodation, tarmac in front of the hangars, improvements to the aerodrome surface and for the laying-out of a golf course.

Mrs. M. M. Bryant, the first lady pilot of the Club, and incidentally the first lady to learn to fly and gain her pilot's licence in Australia, lost her life in the recent ferry disaster in Sydney harbour. The Club was represented at her funeral by the President, and Club machines, piloted by the instructors, flew over the grave and dropped a wreath from the Club.

During October the Australian Minister of Defence was entertained by the Club and was given his first flight in one of the Club's Moths piloted by Mr. E. W. Leggatt, M.C.

The Melbourne (Victoria) Club.

From the date of its inauguration (Aug. 21, 1926) to Aug. 31, 1927, 46 pupils were enrolled for flying instruction at Essendon aerodrome. Six were still on the waiting list at the end of this period and of the remaining forty, fifteen had been granted their "A" Certificate and twelve were still under instruction.

The Geelong (Victorian) Club.

This branch is awaiting delivery of two D.H. Moths and spares promised by the Civil Aviation Department. Mr. C. D. Pratt has been appointed chief instructor on a part-time basis and Messrs. P. J. Pratt, G. McKenzie, F. J. Hegerty and G. D. Milne have offered their joint services as ground engineers in an honorary capacity. All these gentlemen are members of the Aircraft Manufacturing and Supply Co. A hangar has been erected by voluntary labour on Belmont aerodrome and has been insured for £300.

The Perth (Western Australia) Club.

During August and September pupils of the school, which is operated by West Australian Airways Ltd., flew for 40 hr. 10 min., of which 35 hr. 25 min. was dual instruction.

The Broken Hill Flying School.

This school, which is operated by Wings Ltd., is awaiting the delivery of two Avro Avians (Genet engines) before starting operations.

The Tasmanian Club.

The long-deceased Tasmanian Section of the Australian Aero Club is being revived and a committee has been formed which is in communication with the Controller of Civil Aviation in regard to the equipment of a local flying club. They have been informed that, assuming that a specified number of flying members are forthcoming, the Department will loan them two Moths with spares and provide them with aerodrome and accommodation as it has done with the other sections on the mainland.

The Brisbane Flying School.

This school, which is operated by Quantas, came into existence in March, 1927, and up to the end of October 3,118 flights, representing 324 hr. 55 min. flying time, had been made. Six pupils had gained their "A" licence, another three were flying solo, and nine were under instruction.

The results achieved, considering the whole of the work has been accomplished by the Manager-Instructor and one ground engineer, have been extremely good. It is noteworthy that among the pupils under instruction is a lady who reached the solo stage in excellent time and shows promise of becoming a very sound pilot.

The Aeroplane Book Department.

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THE TIMES TRADE SUPPLEMENT.
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The flying boat in which Sir Alan J. Cobham, K.B.E., A.F.C., is making a flight of survey round Africa.

WHEN Cellon Dope was first introduced sixteen years ago Messrs. Short Bros. were one of the earliest users. Many changes have taken place since then in Aircraft Construction and the manufacture of Dopes has been correspondingly improved to suit the varied weather and temperature conditions met with in modern long distance flights. Cellon Dope is equal to every strain and meets all requirements.

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COMMERCIAL AERONAUTICS.

The London Terminal Aerodrome.

Owing to the Christmas Holidays, The Aeroplane *for this week went to press on Friday, Dec. 23, instead of on Tuesday, Dec. 27. It is therefore impossible to give here the usual traffic statistics for the past week. These will be given in the next issue, along with those for next week.*

Croydon Notes.

The abnormal cold of the first few days of this week did not in any way interfere with flying. Pilots and mechanics suffered from the temperature, but otherwise the period of the frost gave excellent flying conditions. The new cabin-heating gear on the Handley-Page W.10 in particular came triumphantly through the test of use in abnormally low temperature.

The thaw on Wednesday morning turned the aerodrome—as everything else—into a sheet of ice, but it did not give any opportunity for trying out wheeled undercarriages on such a surface, as the fog which accompanied the thaw forbade flying.

Personnel attempting to reach the aerodrome were even more inconvenienced by the state of roads than were the majority of town-goers, for the roads remained dangerous round the aerodrome until the afternoon.

Conditions in the air after the thaw were unpleasant. A Junkers three-engined machine which took off in a south-westerly direction, took an abnormally long run to unstick—presumably partly because the aerodrome was by this time thoroughly soft and boggy—and then failed to climb, and was pushed down into a field at Purley with its engines running at full bore, and wiped off its undercarriage, fortunately without any damage to personnel.

The cause of this accident seems to have been an unusually strong down-draught in the neighbourhood of the Aerodrome.

The great majority of Croydon pilots have for some months past been diligently attending classes held at the Aerodrome Hotel for instruction in Air Navigation. The majority have long since concluded, despite their earlier beliefs, that they know nothing about the subject—a state of humility which augurs well for their success in the official examination which was held at the Air Ministry on Tuesday and Wednesday.

W. H. S.

IMPERIAL AIRWAYS' PARIS HEADQUARTERS.

On and after Dec. 24, Imperial Airways' new Paris Headquarters at 38, Avenue de l'Opera, will be open to the use of passengers. Passenger cars for Le Bourget will depart from, and arrive at, this address, which is as central and accessible as is possible.

This office will be open during the winter from 6.30 a.m. to 9.0 p.m. There will be an inquiry bureau, booking facilities, and seats may be booked and freight will be accepted there between these hours.

THE ROSE RED CITY.

Imperial Airways Middle East services have now made arrangements for tours to the ruined city of Petra, and to other places of interest in Palestine, and the surrounding districts. These tours take seven days, and the fare, including hotel accommodation, all meals, motor transport, and sight-seeing fees, is £75.

Passengers start from Cairo and fly to Maan, landing at Gaza for lunch. They go thence by car to Ain Musa and to Petra. The second day is spent at Petra, and on the third day they fly to Amman. On the fourth day there is an excursion by car to Jerash, returning in time to fly to Jerusalem that evening. The fifth and sixth days are spent at Jerusalem with excursions to places of interest, and on the seventh day the return flight to Cairo is made.

AIR TOURING ON THE GRAND SCALE.

Between Mar. 1 and Sept. 29, Mr. Van Lear Black flew a total distance of 70,726 km (43,911 miles) as a passenger on the Fokker F.VII which he chartered from the K.L.M. Of this total 30,110 km. (18,700 miles), represents his journey to Batavia and back between June 15 and July 23. The remaining 40,616 km. (25,200 miles) was spent in various flights about Europe.

Mr. Black flew on 89 days out of 183 in the period and crossed the English Channel 45 times.

GERMANY TO PERSIA.

During August of this year the Persian Junkers Luftverkehr were asked by the Persian Government to arrange for the immediate delivery of a large supply of lymph. A Junkers W.33, piloted by Herr Hardner, was at once loaded with 500 kg. of lymph and other medical stores, and flew from Dessau to Teheran via Lemberg, Mineralni-Vody and Baku.

Shortly before this a Minister of the Persian Government, H. H. Fouroughi Zoku, with his brother and son and 250 kg. of luggage, flew from Teheran to Berlin in three days, using the regular services of the Persian Junkers Luftverkehr, the Ukrvozduchput and the Deruluft.

SOWING THE SEED.

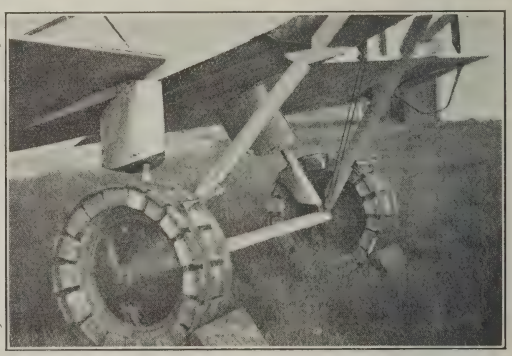
On Dec. 20, Colonel Lindbergh, who is at present in Mexico, after having flown non-stop from Washington to Mexico City in 27 hrs. on Dec. 13-14, took President Calles and General Obregon on their first aeroplane flight over Mexico City in a Fairchild monoplane.

A USEFUL AERODROME ACCESSORY.

West Australian Airways Ltd. have developed an interesting wheel track to enable aeroplanes to taxi across soft and boggy ground.

On account of the soft state of certain parts of Perth aerodrome during the wet season it was found impossible to taxi machines to the opposite side of the ground from the sheds as they frequently sank up to the axles, which made their extraction a matter of considerable difficulty.

As the aerodrome has certain firm areas which afford a good start for about 50-100 yards, enough momentum can be gained to enable machines to take off across boggy ground when once a speed of approximately 15-20 m.p.h. has been reached.



To enable the machines to taxi to such firm areas without bogging, a pair of tracks were invented to strap round the wheels. These tracks are made from staves off oil casks, which lend themselves to the shape and are of very tough timber. Two straps are fitted on the outside of the staves around the circumference of the wheel, ending in buckles to enable the tracks to be pulled tightly onto the tyres.

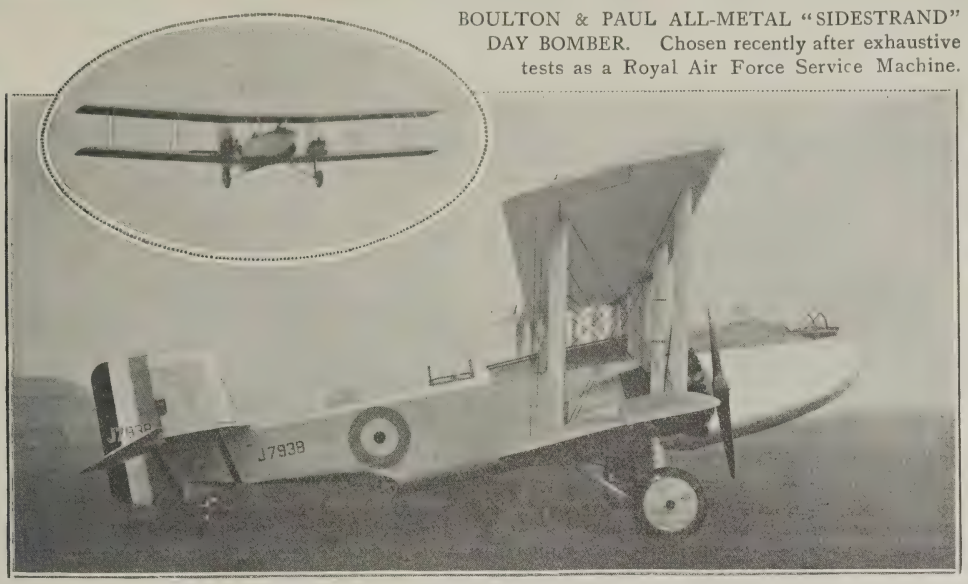
Machines taxi on or off to the tracks, and the buckling on or detaching is a matter of a few seconds. When so fitted machines show no tendency to bog and have actually been taxied across hitherto inaccessible portions of the aerodrome and over deep tracks made by unprotected wheels.

The tracks are, of course, discarded before taking off.

This simple home-made accessory has assured a continuity of service during certain periods after bad weather when otherwise machines would have been prevented from flying solely by untavourable ground conditions.

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BOULTON & PAUL ALL-METAL "SIDESTRAND" DAY BOMBER. Chosen recently after exhaustive tests as a Royal Air Force Service Machine.



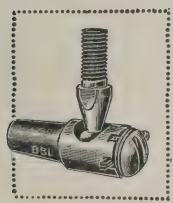
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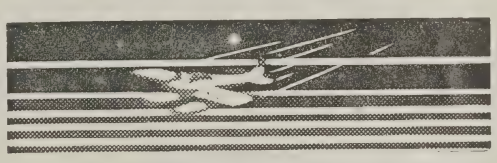
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Schneider Cup *won on* Pratts

This great triumph won by Flight-Lt. S. N. Webster, A.F.C., flying a Napier-Lion Engined Supermarine S.5, on Pratts Ethyl Petrol, is the culminating achievement of a record-breaking year of successes on PRATTS.



Supreme in Air, on Land and Water.

TO COLLECTORS OF DOCUMENTS.

A correspondent who is shortly going abroad wishes to dispose of 76 wartime issues of *La Guerre Aérienne*, all illustrated and all in good condition. Offers for the lot should be sent to H. B. H., c/o The Aeroplane, 175, Piccadilly.

La Guerre Aérienne was a weekly propagandist paper published during the War 1914-18, and though not by any means serious history, it does give a very graphic idea of how war in the air was conducted by the French *Service d'Aviation Militaire*.

MORTGAGES AND CHARGES.

Blackburn Aeroplane and Motor Company Ltd.—Mortgage dated Dec. 5, 1927, to secure £3,840 and further advances, if any, charged on certain lands and premises at Gipton, Leeds. Holders: Halifax Permanent Benefit Building Society.

NEW COMPANY.

Suffolk and Eastern Counties Aeroplane Club Ltd.—Private Co. Registered Dec. 16. Capital, £100 in £1 shares. Objects: to promote, assist and encourage aerial navigation in all its forms, and the study of aeronautics, etc. The first directors are: Dr. J. C. Sleigh, Albany Cottage, Dedham, Essex. H. Billinton, Old School House, Benhall, Saxmundham, Suffolk. C. N. Prentice, Hazeldell, Tavern Street, Stowmarket, engineer. Secretary: C. N. Prentice. Solicitors: Gudgeons, Peecock and Prentice, Stowmarket. Registered office: The Buttermarket, Stowmarket, Suffolk.

PERSONAL NOTICES.

Births.

BEAUMONT.—On Dec. 20, at Anglo-American Hospital, Cairo, to Enid (*née* Ripley), wife of Lionel Collins Beaumont, Flg. Off., R.A.F.—a son.

DARVALL.—On Dec. 16, at The Firs, Ruskington, Lincs., to Aileen, wife of Flt. Lt. L. Darvall, R.A.F.—a daughter.

Marriage.

YARDE—SMITH.—On Dec. 17, at Holy Trinity Church, Bedford, Brian Courtenay Yarde, R.A.F., youngest son of Mr. and Mrs. J. E. Yarde, of 7, Kimbolton Avenue, Bedford, to Marjorie, elder daughter of Mr. and Mrs. Sydney Smith, of 107, Bramham Road, Bedford.

Forthcoming Marriages.

GUINNESS—STRANGMAN.—A marriage has been arranged, and will shortly take place, between Kenelm Edward Lee Guinness, of The White House, Kingston Hill, Surrey, younger son of the late Capt. Benjamin Guinness and Lady Henrietta Guinness, and Josephine Strangman, younger daughter of Sir Thomas and Lady Strangman, of 3, Buckingham Gate, S.W.1.

PLEVINS—BYRNE.—The marriage arranged between Mr. St. John Plevins and Miss Virginia Byrne will take place very quietly at St. Paul's, Knightsbridge, on Jan. 18, at 2.15 p.m. No invitations will be sent out, but all friends will be welcome at the church.

MISCELLANEOUS ADVERTISEMENTS.

All Advertisements for this column should arrive at this office by 6 p.m. Monday, to ensure insertion.
For the convenience of Advertisers, replies can be received at the office of The Aeroplane, 14, Bream's Buildings, London, E.C.4.
Special PREPAID Rate—18 words **2/-**; Situations Wanted ONLY—18 words **1/-**. 1d. per word after.

PERSONALLY TO ADVERTISERS.—The Secretary of one of the most recently formed Flying Clubs writes to The Aeroplane:—

I want to thank you for the sporting manner in which you have handled our (somewhat hurried) press reports. Space in your paper is very valuable, as is proved by the number of the air-minded who have written me after seeing our stuff therein.

Space in The Aeroplane is valuable in these days. Editorially it is valuable because it is restricted in a definite proportion to the amount of advertising which appears in the paper. If there were more advertisements the paper would be bigger

But this letter shows that space in The Aeroplane is also very valuable from the advertising point of view. The people who fly and the people who are going to fly read every line of it. If you want to sell anything to anybody concerned with aviation, from the Air Ministry down to the prospective pupil at a Flying Club, tell people about it in The Aeroplane.

AVIATION INSURANCE.

Before Effecting or Renewing Insurances communicate with Bray, Gibb and Co., Ltd., 166, Piccadilly, W.1, who will gladly give advice and quotations.

FOR SALE.

For Sale, Cheap, A.N.E.C.11, EBJO; slightly damaged; without engine; may be seen at Brooklands by appointment, where necessary repairs can be cheaply executed. Apply—N. Jones, 7, Bridewell Place, E.C.4.

PRACTICAL FLYING.

Learn to fly at the Hampshire Aeroplane Club at a total cost of £14. Write for particulars to the Secretary, at Hamble, Southampton.

PATENTS.

STANLEY, POPPLEWELL AND FRANCIS, International Patent Agents, Jessel Chambers, 88, Chancery Lane, W.C.2. Telephone, Holborn 6393; Telegrams, "Notions, London."

EMPLOYMENT.

All seeking Aviation Employees or Employment should communicate with Capt. F. Warren-Merriam, A.F.C., A.F.R.Ae.S., agent for Air Lines, British Aviation Insurance Group, etc.; his Employment Bureau is authorised and licensed by the L.C.C. Address, 64, Victoria Street, Telephone Victoria 8428.

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Required, First-Class Senior Draughtsman with good all round experience of the layout and detail requirements of aircraft design, both all-metal and composite construction. Only first-class men need apply.—Box No. 5437, The Aeroplane, 14, Bream's Buildings, E.C.4.

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Avro 504K, in good condition and complete without engine. Box No. 5442, The Aeroplane, 14, Bream's Buildings, E.C.4.

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Sidcot Flying Suits! Genuine R.A.F. new surplus, lined teddy fleece, interlined oilskin, fur collars, all sizes, 5 ft. to 6 ft. 2 ins., 65s. Ex-R.A.F. pilots' gauntlet gloves, 10s. 6d. per pair. Double Chrome leather breeches, 25s. per pair. Full chrome leather flying coats, from £6 6s. Flying helmets, from 12s. 6d.—Wainwright's, 300-302, Euston Road, London, N.W.1. 'Phone: Museum 6280.

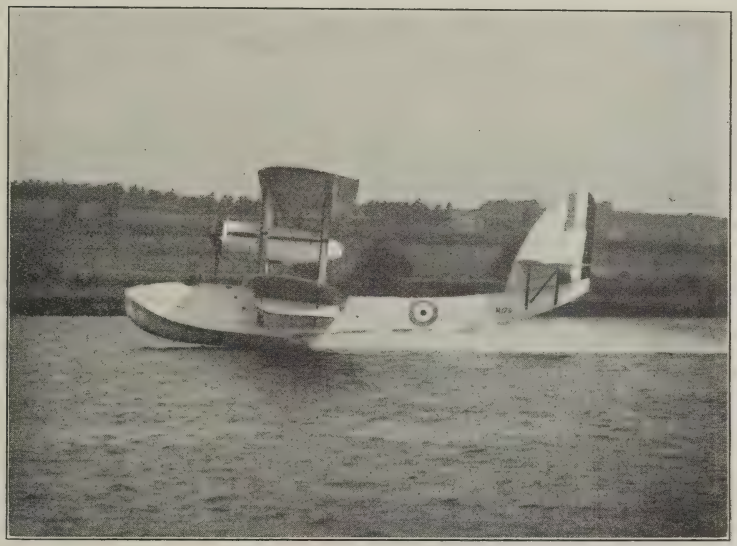
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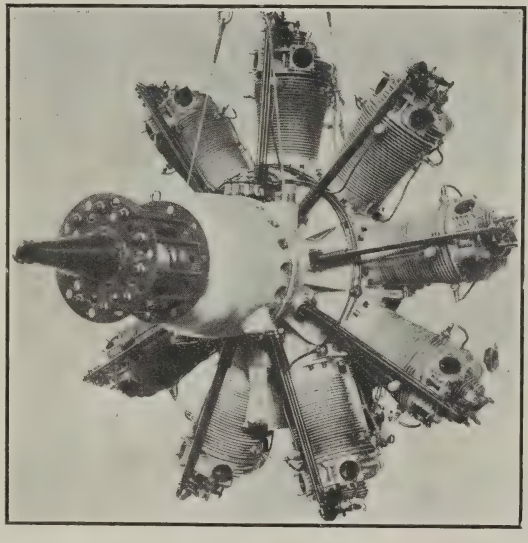
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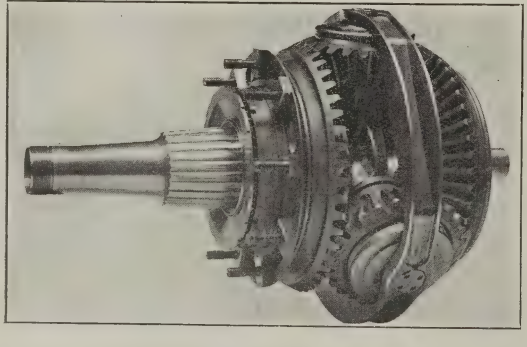
FEATURES IN THE DESIGN AND CONSTRUCTION OF THE

"Bristol"

JUPITER SERIES VI RADIAL AIRCOOLED ENGINE

No. 21. The Jupiter Reduction Gear.





The "Bristol" Jupiter Series VIII and IX engines are logical developments of the well-known Jupiter VI, the outstanding feature being the incorporation of the well-known Farman patented self-centralising, bevel reduction gear, for which the Bristol Company hold the sole rights in this country. This gear is of extremely high efficiency and during the last eighteen months has been well tried out in half-a-dozen different types of aircraft, covering hundreds of hours running, with complete satisfaction and reliability.

The reduction ratio employed of 2 : 1 enables full advantage to be taken of the propeller characteristics most suitable for bombers, seaplanes or comparatively heavily loaded aircraft, resulting in a marked improvement in performance being obtained in all cases where these engines have been substituted in such types of machines.

As regards installation, the engines are interchangeable with the Jupiter VI, the well-tried features of which are retained suitably stiffened where necessary to cope with the additional torque.

The Series VIII is an altitude engine of 6.3 compression ratio, and rated at 455 B.H.P. at 4,000 feet, while the Series IX is of 5.3 compression ratio, rated at 485 B.H.P. at ground level, these engines being identical in other respects; both incorporate a hand-turning gear and engine-driven petrol pump, in addition to the accessories and drives standardised on the Series VI engines.

THE BRISTOL AEROPLANE CO., LTD.,

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Printed for AERONAUTICS LTD. by BONNER & CO. LTD., The Chancery Lane Press, Rolls Passage, London, E.C.4; and Published by AERONAUTICS LTD. at 14, Bream's Buildings, E.C.4.

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